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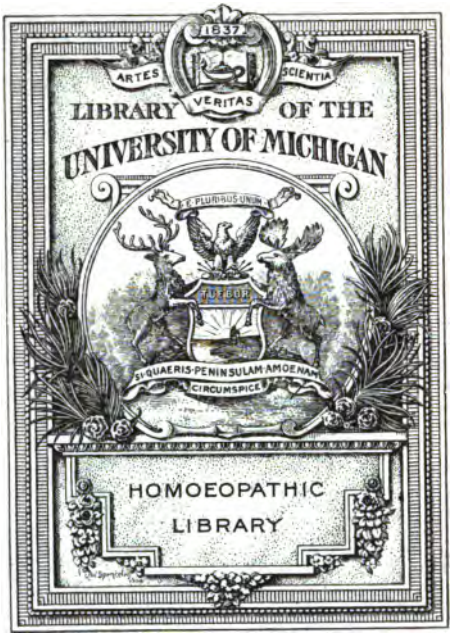
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THE HAND BOOK

OF

HYDROPATHY;

FOR

PROFESSIONAL AND DOMESTIC USE:

WITH

AN APPENDIX,

ON THE BEST MODE OF FORMING HYDROPATHIC ESTABLISHMENTS.

BEING THE RESULT OF TWELVE YEARS' EXPERIENCE AT GRAFENBERG AND FREYWALDAU.

BY

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PREFACE.

It would be superfluous to say much in favour of a system of treatment, which, resting on its merits alone, cannot fail eventually of becoming general. Were I, who have devoted myself to the practice of hydropathy, to advocate its cause, my words would be discredited as those of a prejudiced person, or disregarded as the idle talk of an enthusiast. It is, therefore, not my object in sending these pages into the world, to endeavour to gain proselytes to a new therapeutic doctrine, or to render the water-cure more popular than it is at present. I address myself to the portion of the public endued with good sense, and with soundness of judgment, leaving it to them to form their own conclusions. I do not write for the present day alone, convinced as I am that the water-cure, through its intrinsic worth, and by the force of its beneficial operation solely, will break its way through the ramparts of prejudice opposed to it by frivolous

and unreflecting minds, and surmount the impediments with which the blind adherers to old and prevalent doctrines, or the timid and half instructed followers of the opinions of others, may attempt to obstruct its rapid progress.

Many works have latterly appeared, both abroad and in this country, on the subject of hydropathy; the public of Germany, has, more especially within the last ten years, been overrun with books explanatory of the beneficial effects of cold water, written with the express object of giving popularity to this new system, or designed to instruct the public in the modes of applying cold water in diseases, and in its use and action as a prophylactic remedy. Some of these works, however, are totally defective; others but partially answer their intended purpose; whilst the majority are absolutely injurious, and wholly objectionable, inasmuch as they diffuse false notions of the nature of this system of treatment, and recommend water without limitation, in every disease. Many books, by gross misrepresentations of cures of important diseases, in an incredibly short space of time, must of necessity prove more hurtful to the cause of hydropathy than further the propagation of a discovery of so much benefit to mankind. It is true that some few authors have of late endeavoured to counteract this abuse; but it is infinitely more easy

to harm a cause than to repair the injury it may have sustained.

Those who look through these pages with the idea of finding new views on the water-cure, or of meeting with theoretical disquisitions, will be disappointed in their research. The intention of my work is purely practical; I have merely arranged that which is already known of hydropathy, according to my absolute experience, and have given the treatment which I have found most advantageous in practice in certain diseases.

The opportunities I have enjoyed of gaining experience in this new system of treatment, assures me that my labours will not have been in vain. I have watched the progress of the hydriatic treatment of disease in conjunction with Priessnitz, from its earliest infancy to its present stage of development, to its present state of extension. In the year 1833–34, when the practice of hydropathy became more generally known, I formed an establishment at Freywaldau, in order to enlarge my sphere of observation on the action of cold water on disease, and to draw my conclusions on the whole system of treatment. My establishment was the best frequented in Germany, after that at Grafenberg; and from the close vicinity of the two institutions, I had the opportunity of observing Priessnitz's patients also. Thus I be-

lieve, that my experience may serve as an apology for intruding this work upon public notice.

Hydropathy has since that period made vast progress in Germany, and in England. To Captain Claridge, the merit is undoubtedly due, of having first directed the attention of the public, in the latter country, to this invaluable system—an undertaking in which he has shown the greatest perseverance and industry, advocating the good cause, by word and deed, and never losing an opportunity of extending its popularity. He not only, with considerable expense of time and labour, published the first popular work on the cold water cure, in the English language, but has, since the appearance of his book, followed up his exertions in propagating hydropathy, by his popular lectures in England, Scotland and Ireland. That success has attended his endeavours, is proved by the extensive sale of his work ;* and the articles which have appeared in the Scotch and Irish newspapers are sufficient evidence, that his exertions are gratefully acknowledged by the public—circumstances auguring most favourably for the ultimate success of this new system of treatment in Great Britain.

* The unprecedented number of 7000 copies of his work, and as many more of the abstract, I am assured by his publishers, Messrs. Madden and Co., have been disposed of within a very short period.

To Captain Claridge my thanks are further due, as it was he who introduced me to Dr. Graham, by whom I was persuaded to leave my native country, and form an hydropathic establishment in England, on the model of that at Grafenberg. Of this institution I have been the director to the present time. Thus my attention has been uninterruptedly and exclusively devoted to the treatment of disease by cold water, during the last twelve years. The establishment at Stanstead-Bury has offered me no less favourable opportunities of extending my experience; for it was always well frequented, and at times even overfilled with patients: I am therefore justified in asserting that my observations are as numerous, and that my experience is as extensive as that of Priessnitz. I have seen how far this system may be pursued with benefit to the patients, and to which cases it is particularly adapted; I have consequently been successful in my practice, and have frequently effected cures in cases which have been abandoned by Priessnitz and other practitioners; as the numerous testimonials of gratitude expressed by patients, publicly in the German papers, will prove.

With these advantages, and a thorough conviction of the superiority of this method of treatment above every other system, I think to be of benefit to the people of this country, in publishing the results of my

experience, and by thus making them more generally known.

In order to extend the sphere of utility of this work, it has been my chief endeavour to render myself intelligible to the non-professional reader, that the treatment by water may be safely introduced into domestic use, and exert its beneficial influence where medical assistance is, perhaps, not to be obtained.

A new method of treatment, which has created so general a sensation as that of Vincent Priessnitz, has of course met with many advocates from egotistical, rather than philanthropic motives—persons who have abused this system, and thus injured it in the estimation of the public. Against practitioners of this grade I will not speak, but will merely casually venture to observe, that hydropathy is essentially in accordance with the principles of medicine, and that the practice of it, in general, should be restricted to the profession exclusively.

My opinions may perhaps gain additional weight with many of my readers, when I assure them that I have had ample opportunities of judging of the allopathic and homœopathic modes of treating disease, and that it is my firm belief that this new system, deserving the preference, will ultimately prevail; nor will my motives, I hope, be subjected to misconstruction, when I further assert, that I have been enabled

to compare the various doctrines of the day, when put to the test of actual practice, and confidently yield the palm to hydropathy. I have myself practised allopathically—and was offered, in the year 1826, to hold the situation of Officer of Health, in one of the districts of Prussia, but preferred remaining in my native country. In the year 1828, I received the prize for my dissertation on the use of narcotic medicines in certain diseases, from the university of Leipzig; but when I became acquainted with this new method of treatment, I abandoned the use of all drugs, and within the last twelve years have never resorted to one single pharmaceutical preparation; although my practice has, during that period, been very considerable.

The extension of the use of cold water is of so much benefit to mankind, in health and in disease, and is so well adapted to our age, that it becomes in a philanthropic point of view meritorious in the individual, who thus renders an essential service to the public welfare, to lay remarks on the beneficial effects of temperance before the world, and to publish his experience on the admirable influence of cold water on the human organism, if it were only to furnish scientific men with facts whence they can form conclusions, and yield more perfect and elaborate productions. It will not be expected from me that I should bring

forward a work on the whole system of hydropathy, or offer a learned treatise on diseases and their treatment; for an elaborate and studied compilation of that description would be ill adapted for a practical book, written moreover, for the benefit of the public generally. If some few critics, nevertheless, mistake my intentions, or cannnot renounce their nature, and subject the deficiencies they may detect to ridicule, I shall oppose them with silent contempt, as the best remedy against their sordid venom, and shall endeavour to imitate the laudable equanimity and silence of Priessnitz, of whose admirable system I own myself a zealous follower.

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HYDROPATHY.

CHAPTER I.

SHORT HISTORICAL SKETCH OF HYDROPATHY.

HYDROPATHY, as history teaches us, is by no means an invention of modern times. In the remotest and darkest ages of antiquity, water served probably as the exclusive beverage of man, and as the sole purifier of his skin. Water, moreover, was the chief remedy which the intuitive instinct of man suggested to him in all prevalent diseases. As long as man was acquainted with no other remedies for these purposes, and his mode of life was in accordance with nature, he remained healthy and strong, and attained a high degree of longevity. With the progress of time, artificial, mostly warm beverages and baths, stimulating food, more flattering to the palate, assumed the place of cold water and cold ingesta, and the inevitable consequences of this luxurious mode of life soon made their appearance. Debility, and diseases of all kinds, now superseded the sense of health, strength, and comfort, which was experienced before. By this unnatural and extraneous influence, the irritability of the nervous system was augmented—disturbances of the digestive organs, of all the functions of the mind, and the whole animal economy, were created—whilst medical men, and the unlearned, strove to remove these evils, to restore the equilibrium

of the system by a further encroachment upon nature, and were forced for this purpose to have recourse to stimulating means. But all these remedies were found inefficient, or became inadequate to the purpose, when they subsequently lost their influence on a body accustomed to their use, and the faculty was obliged to invent new remedies, which were administered to the patients in a variety of ways, in smaller or larger doses, or diversified in their composition. In this manner the number of medicines increased from year to year, so that we need not be astonished at the great and flourishing extent of the materia medica of the present day. System followed upon system, because none answered our expectations or our hopes; error made way for error in the practice of medicine, as man digressed from the laws of nature. More pernicious than the errors in the healing art, are the consequences of the indulgences and dissipations of man. The medical man is called upon to produce an instant cure, or to afford temporary relief, and is forced to resort to powerful remedies to alleviate the torments produced by an unnatural mode of living, for no other purpose than to smooth the way to fresh indulgence and its consequences—excesses which are again repeated without intermission, until no remedy is left—no method remains which could alleviate suffering for one day, much less for a more lengthened period:—then follow the complaints, as a matter of course, of the inefficacy of all methods of treatment, without exception.

At no time have men of merit and experience been wanting in the faculty, who have sought by word and deed to put a limit to this unnatural mode of life—who have attempted to recall the use of cold water as a dietetic and therapeutic, from the disuse and oblivion into which it had sunk. Many were the cures effected by these means. In the history of medicine we can therefore refer to no epoch

where Hydropathy has not, for a short period at least, played an eminent and honourable part. If we attempt to fathom the reason why cold water, notwithstanding its proved therapeutic effects in most diseases, and its merits as an article of diet, should have fallen into disuse and oblivion, we shall always stumble upon an unnatural mode of life pursued by man, and errors in the practice of medicine. The cause of this disrepute has been laid *solely to the charge of medical men, but without justice.* Do we not find, in all ages down to the present time, a number of medical men, names well known, who have sought with indefatigable zeal, and under many sacrifices, to restore cold water to the rank it deserves, and to *lead us back to our original and natural mode of life?* But their warning and well-meaning voices have been for the most part disregarded. We shall not be more fortunate than our predecessors; man will not listen to the voice of nature, much less to that of man.

The powerful and bold language with which Professor Oertel has in later days advocated the cause of cold water, recommending it even in excess, has been erroneously blamed; nor is the question out of place, whether a less energetic recommendation would have procured it the respect and consideration it deserves, *necessary as it is to diseased and enervated man?* I, for my part, answer No! It was only the incessant exhortation of Oertel—his reiterated exclamation, "Nothing but water," which we could no longer resist—and the voice of nature at last prevailed, because it was the chief *desideratum* of our age. We must confess that Priessnitz made use of cold water in the form of ablutions, and sponging in cases of wounds, sprains, and minor injuries, in his practice amongst the poor, long before Oertel's cases of cure by cold water appeared; but Priessnitz was no doubt stimulated by Oertel's unreserved

recommendation of cold water, to follow zealously the path he had himself chosen. That this was the case we are justified in concluding, as he extended his mode of using cold water, both externally and internally, with remarkable boldness. *His total unacquaintance with every other remedy, could alone lead him to the use of cold water in all diseases which came under his treatment*, with so much confidence. By the fortunate and unfortunate results of diseases treated upon this plan, aided by his power of steady observation, he soon became acquainted with the limits of several of his modes of application. *In conjunction with his patients*, he made repeated experiments, and in this manner his system of treatment gradually arrived at a state of extension *not before attained in the annals of medicine.* I said, *in conjunction with his patients;* for Priessnitz does not deny that at this period of the origin of his system, *the patients frequently* directed his attention to new methods of applying the cold water, and assisted him in carrying them into effect. The development of his system of treatment progressed rather rapidly. In the year 1826, Priessnitz was acquainted with no other modes of using cold water than in the form of ablutions,—at least to this period it was neither prescribed nor brought into application in any other form by him. These ablutions were confined to slight cases to which they were adequate. Priessnitz' investigations and observations were hitherto limited to trivial complaints, and it was *only the poorer population* of the neighbourhood, and these in *inconsiderable numbers*, who came to him for relief. In the year mentioned he began to use cold water *as a remedy in internal diseases.* Simple ablutions now no longer answered his purpose, and he resorted to wet cloths (umschläge) and even to baths; the douche soon followed, and sweating; lastly, cold water, according to Oertel's prescription, was

taken internally. This mode of using cold water, and Oertel's cases of cure, which had now appeared, attracted the attention of the public, not only in the neighbourhood, but in a more extended sphere; and in the year 1830, Priessnitz *had already* fifty-four patients, whom he treated with marked success, with cold water only. The fame of this new mode of treatment spread with incredible velocity; and patients of all grades, foreign and native, of all ages and sexes, were seen wandering for relief towards Gräfenberg, to the quiet and rustic residence of Priessnitz: Prussians especially, and persons of rank and influence, were the chief supporters of this method. Under these circumstances, with an increase in the number of patients and a variety of diseases, for which relief was sought, diversified treatment became of course imperatively necessary.

The peculiar acuteness of Priessnitz invented continually new and efficient modes of application, by which he diversified the operation of cold water, the sole remedy at his command; using it as a refrigerant, sudorific, tonic, antiphlogistic, and even as a powerful stimulant, until it became adequate to all cases. *In* 1835, *all the customary partial or local baths*, such as head, arm, hip, and foot-baths, &c., were in use; the wet cloths, gargles of cold water, injections into the various cavities of the body, were also in daily use. From that time, one mode of application or the other was more in vogue, as Priessnitz, in his increasing practice, found it most expedient.

To the credit of several German physicians be it said, that they took an active interest in this new system of treatment during its infancy, and their favourable opinion was indeed of greater authority with the higher classes than that of the laity. *Dr. Kröber, of Breslau*, was *the first* to communicate to the public the experience and observations he had the opportunity of making during a residence

of two months in Gräfenberg. This small but sterling work was followed by the well known pamphlet by Dr. Künz, in which this gentleman not only does justice to the new method, but hails its appearance as a discovery suited to our age. By *these two works*, the attention of the medical public was first directed to Priessnitz' proceedings. Physicians were always visitors at Gräfenberg and Freywaldau from this period, sometimes six or eight at the same time: many of these made themselves masters of the new system of treatment, and instituted establishments themselves, or diffused by writing their opinions on Hydropathy, and of the advantages which the regular use of cold water affords to man in health and disease. These were the preparatory steps; and thus cold water, which had passed into oblivion, regained, partially at least, the acknowledgments due to its merits as a remedy, and thus originated the many hydropathic establishments existing at present both here and abroad.

If, on the one hand, therefore, the praise and honour be due to Professor Oertel, as the first to recall our attention to the use of cold water, and extend our acquaintance with it, we must, on the other hand, remember that all these verbal and printed eulogia would have vanished in the tide of time, if the man of nature, resting on these theoretical views, had not cleared the way for Hydropathy, by bringing theory to bear upon practice, and followed out the latter with firmness and perseverance.

CHAPTER II.

GENERAL DIETETIC RULES FOR THE HEALTHY AND THE SICK.

It is, indeed, no very easy task, considering our artificial mode of life, to lay down perfect dietetic and prophylactic rules. Diet, in the extended sense, has to contend with physical and moral influence; its office is to preside over the operation on the animal economy of air, water, residence, rest, motion, waking, and sleeping, to maintain that just equilibrium which is so essential to the preservation of health. Pure air and water, and a healthy situation for residence, are not always at the command of man; the choice of rest or exercise between waking or sleeping, the selection even of his food and drink is not always in his power; and, lastly, *how rarely is he able, even aided by reason, to curb his passions!*

These circumstances, however, must not deter us from insisting on a due regulation of all that refers to health. The more difficult and important the affair, the more it will deserve our attention; the more urgent the reason for pointing out the exigencies of the case. The further we digress in our mode of life, in our customs and habits, from the simple path of nature, the more urgent becomes the necessity for a strict observation of hygienic rules. These are not restricted to the body only, but must refer also to the mind, for the two are so intimately connected that every impression made upon and felt by the one, must necessarily influence the other. As a sound body is essential to the health and vigour of the mind, a quiet and composed state of the latter is, above all things, necessary for the

maintenance of bodily health. No one faculty of the mind must be exerted to excess, or predominate above the other; and the passions must be restrained within proper bounds.

Where understanding, mind, and will, are equally developed, and thoroughly harmonize, the mind may be said to be healthy; and in this case will exert a beneficial influence on the body, the health of which will again react advantageously on the mind. Agreeable mental occupation, regulated desires, and cheerful spirits, contribute materially to health and comfort.

In laying down dietetic rules for the body, we will first consider the subject of food. Alimentary substances, containing nutrient properties in the most marked degree, are said to be the most wholesome. True as this assertion may appear, it can only be admitted with certain provisions. Purely nutrient substances are scarcely to be found; those which contain the largest quantity of elements of nutrition, as gelatine, the yolk of eggs, &c., we are not able to persevere with for any length of time, without decidedly injurious effects, unless we mix them with less nutritious substances. If by purely nutrient substances those be understood which exert no medicinal or stimulating influence on the body, I perfectly agree with the position.

The organization of our digestive apparatus teaches us that a mixed diet, consisting of animal and vegetable food, is natural to man; we cannot adhere exclusively to one or the other without disturbing the bodily health, but we could better accommodate ourselves to a vegetable than to an animal diet, especially if bread be substituted for meat, and form a prominent article of our food. The flesh of herbivorous animals of active habits, living in a state of freedom, is most nutrient and wholesome. Those parts of these animals which are chiefly exercised, and serve the purposes of progression and locomotion, yield the most

tender and succulent meat; for example, in birds, the breast and wing; and in deer, &c., the loins are most nutritious. As a general observation we may say, lastly, that the flesh of young animals is more easy of digestion than that of old, and that fresh meat is preferable to that which is smoked or salted.

Venison, veal, beef, mutton, the flesh of goats, of nearly all kinds of birds, eggs, milk, and some species of fish, are proper articles of food. Of the latter, those are to be preferred that live in pure running water, especially trout, and the river carp.

From animal food we next proceed to vegetable diet, and preparations. We will commence the enumeration with rye and wheaten bread, which should be well baked, not too new, (or warm from the oven,) but at least two days old. Rice, sago, pearl-barley, groats, peas, beans; potatoes may follow, then the different varieties of green vegetables, and most kinds of ripe fruit.

As beverage, besides fresh cold water, wine may be permitted as an exception, in certain cases, but the lighter varieties only, as Rhenish, Moselle, and French wines. Port and Sherry, and others containing spirit in large quantity, are to be strictly prohibited. The same rule will apply to some other beverages, as beer and its compounds, chocolate, cocoa, &c.

Exercise in the open and pure air is indispensably necessary for the promotion and preservation of health. Not every individual, it is true, can for this purpose live in the country, but every one can obtain the enjoyment of pure air by ventilating his house; or, should he reside in a town, even by walking once a day at least, if he have but the inclination. His walk should extend beyond the atmosphere of the town, and should not be confined to narrow and dirty streets. Houses should always be kept as clean and airy as

possible. In selecting a residence we should, if circumstances will permit it, attend to situation. It should have a cheerful and southern aspect, to afford the possibility of enjoying, for a few hours in the day at least, the beneficial and invigorating effect of the sun's rays.

The clothing must not be too warm, but sufficient to resist the influence of the weather. This must be regulated by climate. In winter, rooms should be of a moderate temperature; great artificial heat is very injurious; excessive cold is hurtful, indeed, to the body, but not to the same extent as great heat. Cold water must, as I have already mentioned, be the chief and usual drink. It invigorates the digestive organs, the stomach, and alimentary canal, is easy of digestion, is readily absorbed by the lymphatic vessels, promotes the circulation and all excretions, and quenches the thirst: qualities peculiar to water, which alone would entitle it to rank above all other beverages. By the regular use of cold water, digestion is kept active in a simple manner, the solution of the food is promoted, and stoppages in the circulation of the fluids, obstructions, or accumulation of gases in the intestines are removed. In one word, it preserves health and harmony in all the functions of the organism.

Water, to produce these effects, *must be pure, and freshly drawn from the source.* It must not be taken in too large a quantity at once, or it will overload the stomach, and bring on swelling of the abdomen, nausea, and loss of appetite. It is necessary in the use of water to pay attention to *constitution and habit;* this is best done by progressing gradually, taking only as much at once as can be borne without inconvenience, and observing a certain limit which is not to be exceeded. If the use of cold water at first produce some inevitable inconveniences, we must not,

by over cautiously adhering to the preceding rule, lose sight of our main object.

But, unfortunately, we hear too often after the appearance of every trivial symptom, the exclamation, "*cold water is not suited to every body!*"—Cold water may be taken at every season of the year, and at every time of the day. In summer it is the best remedy against thirst; in winter, for the promotion of the circulation, and is of the utmost importance, as the blood is determined by the external cold to inward parts. In consequence of an increased circulation of blood, warmth is generated; the use of cold water can by no means, therefore, lower the temperature of the body, as many erroneously believe. We advise all those who are not yet accustomed to drink cold water in winter, to begin soon, and convince themselves of its beneficial effects. The morning time is best suited for the use of cold water, when it not only purifies and invigorates the mouth and air passages, but promotes the excretions, and excites to bodily and mental activity. Before breakfast, one to two glasses of cold water, at least, should be taken, followed by exercise in the room, or, better, out of doors. During the rest of the forenoon, the quantity must depend on the inclination. During the time of dinner cold water is the most wholesome beverage, for it exerts a very beneficial influence on the digestive organs. It promotes both appetite and digestion, dilutes the chyme, and is absolutely necessary in large quantities where the food is not easy of digestion. Experience has proved that some individuals on drinking after eating veal or fat substances, are immediately affected with diarrhœa. If these persons would, during the same meal, drink four or five glasses of cold water, this inconvenience would not result, especially if they do not omit proper exercise. Cold water may be drank without fear with all kinds of food, but every one should study

his own constitution, in order to know which articles of food require, in his case, the largest quantity of water. Drinking immediately before and after eating will not always promote digestion, and is consequently not always advisable. In such cases it is better to wait, if thirst be not urgent, for one or two hours, when a supply of fresh water will be necessary for the process of digestion, and to invigorate the alimentary canal. A moderate quantity of water is even beneficial in the evening before going to bed. Water composes the spirits, which are exhausted by the business of the day, and promotes sleep. An immoderate use of water, on the other hand, would cause eructation, a desire to pass urine, and imperfect sleep. The internal use of cold water is pernicious when the temperature of the body is raised in consequence of violent exercise, dancing, jumping, singing, and other immoderate exertions, as the exhalation from the skin would thus be checked, and irritation of particular parts, inflammation, and other morbid symptoms would be produced. Where this or any other error has been committed, which may have suddenly checked perspiration, exercise should be immediately resorted to with a view of restoring the equilibrium, and the activity of the skin. Where perspiration is spontaneous, and has not been produced by exertion, cold water will do no harm.

The beneficial effects of cold water, in a diatetic point of view, are materially aided by cold ablutions of the whole body. Every person who is not already accustomed to this practice, should, in the morning at least, directly after rising from bed, wash the face, head and chest, or better, the whole body, with cold water throughout the whole year. In summer, bathing in rivers or baths, constructed for the purpose, is advisable at least once a week. Children should from early infancy be accustomed to this practice, that

they may learn to regard cold water as one of the indispensable necessaries of life.

We should altogether direct our attention to a natural education of children. This important subject deserves more consideration than has hitherto been devoted to it. The old and pernicious practice of swathing and rocking children, depriving them for many months of freedom of motion, still prevails. If some countries (especially England) and some single families have abandoned it, this praiseworthy example is by no means generally followed. Tight clothing, confining the body of infants, deserves as much blame as the pernicious custom of swathing. That children should be rather warmly clad during the first half-year of life, is very proper; but then we should always gradually diminish the quantity of clothing after this term, and never inconvenience their bodies by any kind of restraint. In summer, the air should have free access to the whole body, the different members should be free and unconstrained, to assist their development and to prepare them and render them fit for the gymnastic exercise they are subsequently to perform. Cleanliness, exercise in the open air, adapted to the construction of the body and the age, very simple food, regularity in eating, drinking, and sleeping, are not only necessary for the young, but children should moreover be inured at a tender age to privations of all kinds. These few passing remarks should be taken into earnest consideration. Children should be accustomed as soon as possible to the use of cold water, a very easy task for the parents where the will exists, and the slight trouble is not shunned; for it is surprising how soon children become accustomed to it, because it is their favourite beverage—because it is indispensable to them. The proposition made by several hydropathists, to bathe infants, immediately after birth, in cold water, deserves no

attention, as it is contrary to nature. Children should be washed during the first year with tepid water, gradually decreasing the temperature, until we arrive at the use of cold water in about the second year of their age. The hours of the morning are best fitted for this purpose. In summer, children of a riper age should bathe in rivers and other suitable waters, in the open air exposed to the sun.

If a regular and reasonable mode of life be of such importance to the healthy and robust, how much more essential must it be for weakly persons and invalids! We are justified in asserting, that no cure can be effected without a suitable and natural diet; but it is a difficult task to invent a dietary suited to all patients and all diseases, and a still greater difficulty to induce the patients to observe it. The more simple and judicious the diet, the more simple the patient's habits, the sooner he will recover. With how many difficulties have we not to contend, even if our intentions be the best, in relinquishing indulgencies and pleasures of all kinds, although this self-denial is imperatively necessary for the cure of disease! The diet of patients during a course of treatment by water should be nutritious and easy of digestion. The use of warm spirituous liquors and of all stimulating food must be strictly avoided, because these things are in themselves sufficient to produce disease. Amongst the injurious beverages we reckon tea, coffee, punch, bishop, cardinal, rum, brandy, and all liqueurs. Patients must of course be restricted from the use of many articles of food, which may be permitted, occasionally, in health. Amongst the substances which derange the human organism most frequently, are pork, goose, pickled and smoked meat, sausages, very high game, eels, salmon, stockfish, all fat food, and old cheese, all kinds of highly-seasoned dishes, pastry, tarts, pies, &c. The following spices are to be avoided: pepper, cayenne,

ginger, cinnamon, cloves, cardamoms, nutmegs, saffron, bay leaves, &c., and all *Indian and other pickles.*

The treatment by cold water by no means exacts that great care and timid circumspection in the choice of the necessary food, insisted upon in homœopathic treatment, least of all, starvation. The diet in general must be simple, mild, nutritious, even generous, according to the state of the patient; but by no means stimulating to the appetite, for condiments frequently seduce patients to intemperate excesses, more especially those suffering from abdominal affections.

The temperature of the ingesta deserves especial attention; they should be rather cold than too hot. Sometimes, moreover, it becomes necessary to confine the patients to cold food for a time. Caution commands us again in some cases to allow certain indulgences to which the patients are accustomed, and to wean them of them by degrees. This rule applies to old people and those habituated to the use of wine, spirit, and coffee.

The greatest difficulty presents itself in restricting patients from favourite indulgences, and yet we must in this particular show great *firmness*, the more so where energetic treatment is required. Every case of disobedience, every thoughtless neglect of these dietetic rules, is resented in a sensible manner by the constitution. The cure is thus protracted, and the treatment will in such cases be continued without any visible amelioration, until the body becomes habituated to all the operations of cold water. It often occurs that patients, who have been guilty of neglect in diet, seek to repair the errors they have committed by excesses in the use of cold water. Such a proceeding is very much to be lamented; for instead of effecting the desired amelioration, it stimulates the whole system to excess: in the continuation of the treatment the morbid symp-

toms become from time to time worse, new sufferings are even generated, so that the patients are at last obliged to give up the water-cure. If patients who have been badly treated adhere for a length of time to simple dietetic rules, we may sometimes succeed in restoring the over-stimulated organs, consequently the whole body to a more tranquil state; great sensibility, however, to impressions from without generally remains, because in the greatest number of cases *the skin will have suffered chiefly, and may be, colloquially speaking, destroyed;* or the mischief may extend to more important organs, and then the case is bad indeed. *Yet worse advised are those patients* who endeavour to restore their disordered bodies, which they have over-saturated with water, *by powerful medicines;* for sudden death, or protracted disease, is generally the result. These are the cases which have been laid but too often to the charge of Hydropathy, to ruin its reputation. The directors of establishments should certainly prevent the opportunities of these errors in judgment; for of all the ill effects mentioned, which are attributed to the water, neglect of diet and want of self-command are solely to blame.

We have already casually spoken of exercise in the open air, and will now treat of this important subject in particular. Moderate exercise, alternating with rest, is necessary to increase the vigour of the body, to prevent congestions, and stimulate organs to the proper performance of their functions. Where circumstances permit it, the patients must exercise the muscles according to their *strength*, by walking, sawing wood, gymnastic exercises, and the performance of other suitable movements. In promenades and pedestrian tours, the patient should always fix a certain distance, and increase this daily. The same rule applies to the other motions of the body: they should be gradually augmented; in short, the patient should, from

time to time, increase his exertions—active is always preferable to passive motion—it is natural to strive actively for health. Patients who are able to walk out, must not deprive themselves of this enjoyment in the open air, always observing to guard against the pernicious influence of disagreeable weather, cold, wet, fog, &c. If the patient be confined to the room, or in consequence of his state of health to his bed, the sick-room should be spacious, airy, and light, (except in cases of disease of the eye;) draughts should be avoided, but in summer time one window at least may be left open. In winter, the apartment should be frequently aired, yet with caution, that *the cold air may not have immediate access to the patient.* The temperature in a sick-room should be in winter always mild, that the outward application of cold water may not unpleasantly affect the patient, but promote a sensation of warmth.

In the treatment by cold water, invigoration of the whole system is a grand point; consequently, where the state of the patient and the weather will permit of exercise in the open air, it must be urgently recommended. It is incredible with what rapid strides active patients, who remain the whole day long in the open air, progress towards recovery in fine weather: their vigour increases perceptibly, and a sense of health and cheerfulness of disposition become daily more evident. The necessity of fresh air for a patient may be inferred from the injurious effects produced on a healthy system, if deprived for any length of time of this enjoyment. The apartments of patients are for the most part close, filled with unpleasant vapours, which must be injurious; the air is frequently deteriorated to such an extent, that persons in health are forced to leave the room to breathe more freely; and yet the prejudice still prevails, that opening the window and permitting the fresh air to enter is injurious to the patient.

With these considerations, it is not surprising that contagious diseases become so frequently destructive, and cause so many deaths.

Where patients are confined to the room, which must be airy and clean, they should be indulged with the society most agreeable to them; by no means irritated by the presence of those for whom they feel an aversion. Conversation and actions, in fact any thing that inconveniences the patient and disagreeably affects him, should be avoided. The pernicious effect of vehement passion, cares, grief, and desire, on the most healthy constitution, is well known; far more injurious is the action of this mental excitement in disease. The cure, in fact, will not take place before the patient is induced no longer to give way to these emotions, but brought to listen to the voice of reason, and place his confidence in Providence.

I am sensible that I have not fully treated these hygienic rules according to their due importance; but it is my intention to make many additions appertaining to this subject, in speaking of the diseases separately.

CHAPTER III.

ON THE ESSENTIAL PROPERTIES OF COLD WATER FOR DIETETIC AND THERAPEUTIC PURPOSES.

The ground over which the water flows, or whence it takes its source, varies in its properties and composition, and the water partakes more or less of its constituents; we therefore find it impregnated with earthy and mineral substances. The most common of these are lime, gypsum,

magnesia, silica, oxide of iron, and various salts. Water receives, moreover, a number of extraneous elements, which are conveyed to it in the air. It possesses also the capability of entering into combination with various gases, which are frequently present in deep or closed wells. Hence water from these wells, or such as are damp or sunk in the neighbourhood of cesspools, sewers, or other receptacles for filth, which might lead to its adulteration, is to be strictly scrutinized. From these observations, we may conclude that there is no water chemically pure in nature. We must therefore be content if it possess these indispensable properties, viz. if it be pure, (in the ordinary sense of the word,) perfectly transparent, colourless, odourless and tasteless, fresh and cold, neither too hard nor too soft. If the water be adulterated, and the deterioration be evident to the senses, it is not to be recommended for dietetic use, much less for medicinal purposes; because impurities, however introduced, must act perniciously, especially when taken internally. We should therefore be most careful to select good water to drink, and, if possible, at a temperature of 50° to 53° of Fahrenheit. It is not sufficient that the water should be cold, but it must also be fresh. Not every variety of cold water has the latter property, especially in winter, when in our climate the water in ponds, rivers, and seas is indeed cold, but deficient in freshness in the necessary carbonic acid, and can therefore only be useful as a therapeutic agent, as an exception, or in case of need.

We should be particularly careful that the water be fresh —that it possess this admixture of carbonic acid, the gas contained in wells—because on this point is based the chief quality on which *its exhilarating power* depends. *Water for use should therefore be drawn fresh from the spring or well.* It should, further, be neither too soft, nor too

hard: in the former case, it is usually deficient in its exhilarating property. Water which is too hard contains generally too large a proportion of salts in solution, and is therefore, in most cases, with few exceptions, unfit for internal use, and not to be recommended. Such water is not adapted for domestic use, much less for medicinal purposes. The opinion has lately prevailed, that water of trout streams possesses the properties qualifying it for dietetic and therapeutic use; nor is this idea wholly objectionable, although the rule does not apply to every case. Trout are generally found in streams and rivers which take their source in gravelly or sandy soil. When a river increases in size, and decreases in velocity—when its water assumes a higher temperature, or where it flows through a bed impregnating it with various constituents injurious to these fish, they leave this water, proceeding upwards towards the source of the stream.

If water have the properties already mentioned, it is adapted for external and internal use as a dietetic and remedial agent. We must, however, not be too strict in our researches, for in many cases we must be content to find water to drink corresponding in a certain degree only with this description. For bathing, and for external application, such water may in case of need pass, especially if no unfavourable results have followed the external use of it, but rather some few advantages.

CHAPTER IV.

ON THE PRESUMED ACTION OF WATER IN DISEASES.

That there is a peculiar exhilarating power in water, as Hufeland has assured us, the most violent opponents of cold water cannot dispute; though they may seek, by various means, to detract from its merits, or decry it as a dangerous remedy, an imputation which sense and reason have fortunately adequately refuted.

Of the manner in which cold water is capable of producing these favourable results, we can at present only form an hypothesis; but are incapable of offering, or referring to an authenticated theory, because the modus operandi is yet surrounded by much obscurity. Various are the solutions of this enigma by scientific men; but their opinions and views on this subject are so numerous and various, that we are at a loss to know in whom to place our confidence.

One man assures us that the beneficial influence of cold water on the human body is dependent on its exhilarating and strengthening (tonic) effect; whilst another considers it a simple stimulant, and in this way seeks to explain its therapeutic action. Others again have represented it as a solvent, and ascribed its favourable results to this property alone. We will not proceed in the enumeration of these various views, nor add to their number by suggestions of our own, much less discuss the question at issue, how water acts; but we will make the general observation, that this important element assumes various medicinal properties, according to the various modes in which it is applied. If all these united properties did not exist in water, dependent certainly on the various modes of using it, how would it be

possible with one simple remedy to operate against a multitude of diseases in so efficient and prosperous a manner? Experience teaches us daily, that in most diseases where a judicious application of water produces no benefit, all attempts with other medicinal means will fail. When the water-cure is introduced into general practice, and brought into operation in acute and active diseases, in how many cases shall we have opportunity of admiring, wondering at its favourable action! Hitherto it has only been applied to neglected cases, and such as have been pronounced incurable, after repeated trials of the various remedies in repute in chronic disease, where the whole list of the Materia Medica had been previously exhausted. If water can effect cures, where all hopes were lost, how much more efficacious must it be, when brought into operation with due judgment at the proper time? The therapeutic operation of water would then no longer remain unknown to the public, and the favourable results of its use would meet with the acknowledgment they deserve, because obtained in the simplest and the most natural manner.

I perfectly agree with Dr. Richter's view, that all acute diseases are, in the cold water cure, removed by the same process which nature (the ***vis medicatrix naturæ***) follows in her exertions against morbid invasion. The part which the water and art undertake in the active process of cure, consists in regulating, aiding, and modifying the existing action, tending towards cure; i. e., in cases where this action becomes excessive, or threatens to destroy the organism by immoderate exertions, as in inflammatory diseases, in checking its rapidity; in those cases, on the other hand, where sufficient energy is not developed, where this curative action is too weak in comparison with the disease, as in adynamic or typhoid fevers, in augmenting its force. The former result is brought about by a continued and

gradual operation of cold water taken internally for a length of time, by wet cloths, baths; the latter by sudden plunges into cold water, (shocks,) and stimulating applications: in both cases the preparation for the crisis, its acceleration, and alleviation are effected, and the cure adapted to the weak, by copious drinking of cold water, by exciting the activity of the skin by affusion and baths, by envelopment (generally in wet sheets) to produce diaphoresis. This, in short, would be all that water and medical skill has to perform in acute diseases. In chronic cases, the slow progress of the disease, and the inadequacy of nature when left to herself to perform the cure, is owing to the circumstance that the activity of nature is subdued, or has nearly ceased; or is at least too weak and limited in proportion to the malady to be overcome. Intelligent physicians have frequently directed their attention to this circumstance, the grand impediment to artificial cure. Wedekind, especially, thoroughly acquainted with the true relation of disease to the curative process of nature, expressed the opinion that to cure chronic diseases, it would be necessary to incite an artificial fever, and advised for this purpose, alternately to plunge the patient into cold water, and expose him to a high temperature, a practice which certainly in most cases would be inefficient. If the Russian vapour baths have produced beneficial results, which is not to be denied, their favourable effects must be attributed wholly to the spurious fever produced by them. Hippocrates has observed, that very many chronic diseases have been cured by fevers which have suddenly supervened. Nature herself offers examples of this mode of cure. Every physician has frequent opportunities of making the same observation; the fact, in short, is beyond all doubt. The water-cure is now not only an external imitation of a fever, but it excites the organism, and places it in a condition fitting it to oppose the progress of

the disease by fever; in other words, a new action is set up, originating in the system, and proceeding through its stages within the organism itself, which renders a perfect victory over the disease possible.

By the simple and nutritious diet, by the continued internal and external use of water, by sweating, &c., the organic metamorphosis, the process of oxidation in the organism, is promoted and increased. The organism is, on the one hand, purged of the animal debris which have been used, are laid aside, and accumulate (according to Dutrochet's very attractive hypothesis) during life in the system, and ultimately become the cause of natural death. The loss, on the other hand, by separation or elimination, is repaired by new and healthy organic matter. To use a figurative expression, the actual regeneration of the organism proceeds during the water-cure, more actively and more perfectly. That which, in the organism, is yet healthy, and has preserved its normal form, is, as it were, endued with these qualities in an exalted degree, (if I may thus express myself,) rendered more fit for activity in accordance with the purposes of the organism; i. e., fitted for self-preservation, or for the development of regular reaction, in opposition to the invasion of disease.

The process of disease is, in like manner, as the organism itself, excited to increased activity, and brought into direct opposition with that which is yet healthy in the system. Mechanically, this is effected by imbibition—dynamically, by the increased heat in the process of sweating; by these means the diseased and healthy elements are distributed in all parts of the organism, and call forth reaction everywhere.

When the water-cure has been continued for some time, and that which is healthy or diseased in the organism has attained its greatest degree of development, and both are

brought into the most marked opposition to each other, an active and reciprocal process of operation (antagonism) is set up, announced by the appearance of various symptoms known to us as the symptoms of fever.

In this case, the fever is for the most part violent and rapid, but of short duration; for nature, who has again attained her proper or normal activity, assisted by art, in a few days gains the mastery over the morbid action, which has now become acute. The diseased structure is driven towards all secerning vessels to the uttermost limits of the organism, to the skin, where a peculiar eruption is formed, according to the variety of the disease. To this state of things we give the name of

THE CRISIS.

This natural vital process is not to be regarded as morbid, for with the existing disease in has nothing in common. While a disease lasts, therefore, no crisis can ensue. The appearance of the crisis announces a return of the vessels in the diseased parts to their normal activity, the resumption of the proper functions assigned to them; or, in other words, the emancipation of the organism or its organs from disease. This is the sole signification of the crisis, according to experience and nature. It is a mere indication that organs and systems attacked by disease are again restored to their normal state—are free from disease, which, when predominant, had suppressed or considerably modified their secretion and excretion: hence tranquillity and sleep as consequences of violent delirium and convulsions.

When the crisis is established, morbid matter, crudities, &c., are not simply eliminated; but the substance of the diseased structure also, which was consumed and deoxidized during the process of disease. A dissolution or con-

sumption of the organic structure of the basis of the disease, or of the whole body of the disease takes place, and a separation of the resolved or consumed matter. This is the result of the process. The organic substance of the disease is consumed, or rendered useless, in the morbid process—loses its vitality—is eliminated and replaced by new matter. The impending crisis (the termination of the disease) is generally ushered in by a sense of uneasiness, a loss of sleep and appetite, an alternate change from heat to cold, and, lastly, by all the symptoms of fever, which is sometimes violent, but always of short duration, if properly attended to. At its termination, the alvine and other evacuations are more plentiful, and accompanied by a more copious separation of extraneous substances than ordinarily, sometimes by several of the excretory passages at the same time. This increased excretion is generally accompanied by a variety of eruptions of the skin, by boils, abscesses, ulcers, &c.

The true critical symptoms are recognised by a simultaneous dispersion or disappearance of all swellings or tumours; the excretions assume the appearance, odour, and other properties peculiar to them during the existence of disease; and, lastly, with their appearance the diseased action declines, and a sensation of ease and comfort ensues.

Some few patients, in using the water-cure, dread every trifling exacerbation or real approximation of the crisis, as premonitory symptoms of death; whilst the greater number seek to accelerate the approach of the desired event, by exaggerating the treatment. Both proceedings are defective, and cannot lead to the desired result. The former lose with the least exertion their courage, discontinue the cure, and complain of its inefficiency; whilst their own cowardice and want of determination are solely to be blamed.

It is not to be denied, that where the water-cure has been too actively pursued, or too long continued, the critical state of excitement is at times violent and excessive; but in this case it runs through its stages in a very short space of time, and alleviation may always be obtained, and danger averted, by the application of wet sheets, umschläge, and by tepid half baths. A long continued crisis is seldom painful, much less dangerous. No conscientious medical man would moreover undertake the treatment of patients who have not the strength to go through the crisis. Lastly, for the consolation of the timid be it said, that many patients recover under the water treatment without any perceptible critical symptoms.

Of later days, the existence of a crisis in the water-cure has been denied, and all those appearances which we have mentioned and classed under that denomination are regarded as a violent, extorted, and unnatural action, neither promoting the progress of the disease nor accelerating the cure. This is an absurd exaggeration, in the spirit of persecution; for if we consider that a trivial or hardly perceptible circumstance may give rise to a crisis, why should not a protracted treatment by water be capable of producing the same natural process in the organism? In the water-cure, all systems are powerfully excited, and man is moreover taken suddenly from his ordinary mode of life. This question should be first answered by these gentlemen, that they may not subject themselves to the imputation of ignorance of nosology; for when assertions of this kind are made without proofs, we cannot divest ourselves of the idea that their originators have taken little pains in inquiring into the nature and process of disease.

We cannot deny that in some institutions (and we do not except the original hydropathic establishment) the organism has sometimes been injudiciously excited, and

that cuticular eruptions have been produced, by ill-judged treatment; or, more frequently, by a voluntary exaggeration of the treatment on the part of the patient. Cases of this kind have occurred chiefly in the inclement seasons of the year, when the water is very cold, and acts naturally as a stimulant. When an eruption has shown itself on the skin, and water of the same cold temperature is persevered in, this inflammation of the skin will not only be kept up, but may become at the same time very painful. The patient will derive no benefit from such treatment, but frequently the greatest harm, especially as the skin is thus totally destroyed and rendered unfit for the continuation of the cure. These errors of treatment may have given rise to the prejudiced notion, that every species of excitement, skin disease, &c., has originated in this ill treatment, which produces no benefit to the patient.

To prognosticate with certainty the length of the continuation of the crisis in chronic diseases would be impossible, for its origin and termination are subject to no laws. Critical symptoms frequently recur in old and obstinate cases during the water-cure; in gout, mercurialism, &c., they may make their appearance from three to five times before the cessation of the disease and the re-establishment of perfect health.

CHAPTER V.

ON THE DIFFERENT MODES OF USING THE COLD WATER.

THE INTERNAL USE OF COLD WATER.

A MODE of life conformable with nature will admit of no other beverage than pure cold water, ordained by her as the common drink for all mankind. To the present day this law of nature is renounced by the folly, ignorance, aversion, prejudice, and superstition of man. Whenever the voice of nature makes itself heard, it is soon silenced by our sensuality, inclinations, and passions. Many again are deficient in sound judgment or the necessary strength of mind to lay down a prejudice occasionally supported by medical men. There are moreover a number of persons, enemies to water from the most improper motives. But all these circumstances are insufficient to conceal the inestimable properties of cold water from quiet and deliberate reason. By the force of conviction in fact, to which prejudice must yield, correct ideas of the activity of cold water have already gained ground, and we need now no longer doubt of their ultimate triumph. In Germany especially we may expect this result; for the use of cold water has there made rapid progress, particularly amongst the higher classes; cold water has there gained many friends, and is so generally acknowledged by those who use it as their daily beverage to be conducive and even essential to health, that the conviction of the medicinal powers of water must daily become widely diffused. The advantage of the copious potations of cold water in health, and directions for its

use, have been already mentioned in the chapter on dietetic rules. Where it is intended to serve as a remedy in disease, no definite rules regarding the quantity the patient should drink can be laid down; the constitution of the individual and the nature of the disease must determine this point. In acute diseases, with few exceptions, water may be at all times (by day or night) given to the patient to allay thirst. We shall particularize the quantity a patient may take for other purposes without injury, when treating of the diseases separately. In inflammations and fevers we often observe an incredible desire for cold water, dependent on the internal heat and dryness of the skin. Nothing can be more arbitrary than to force patients to abstain from the use of cold water when suffering from fevers; and yet this proceeding, which is based upon prejudice solely, has continued in practice to the present day, and these patients are allowed to take anything but cold water. This is the chief reason why so many fevers and inflammations terminate with nervous affections and death. In observing physiologically the phenomena of unquenched thirst, we find that in its consequences it has an analogy with the symptoms of nervous fever, and yet patients are restrained from satisfying this desire for refreshment—in one word, they are permitted to languish and die. How many nervous patients would recover with the copious use of cold water alone! We have examples enough of such cases; but this proceeding is too simple to save the patient, and they are rather sacrificed to experiment and prejudice.

In chronic cases we can better limit water drinking to certain periods of the day; those patients who need not perspire in the morning, may drink a glass of cold water immediately after cleansing the mouth and teeth. After dressing, which should be performed quickly and without delay, from one to five glasses of water may, according to

circumstances, be taken, of course with proper exercise in the open air; the breakfast may then follow, which should consist of cold milk, or the yolk of one or two eggs with sugar, bread and butter, and cold water, according to inclination.

Patients who perspire in the morning commence drinking during the process of sweating, in order to keep up and promote perspiration, at the same time to cool important internal organs (intestines.) To produce this effect, the patient must take the cold water in small doses and at short intervals; if this rule be not observed, perspiration will be checked. After the process of sweating until breakfast time, the same rules may be observed as in the former cases.

A short time after breakfast, cold water drinking is to be continued with exercise in the open air, observing certain intervals of time. The patient should take one glass every quarter or half hour, according to circumstances, so that two thirds of the number prescribed be taken before dinner. A copious use of water during this meal cannot be too strongly recommended. Daily experience teaches us that drinking plentifully assists the digestion of the most heavy food, which does not otherwise agree with many persons. If this rule ever have an exception, it will be only in isolated cases, and the cause will be found more frequently in foreign constituents mixed with the water, than in weakness of the digestive organs, as I have often observed in the case of myself and others.

In the year 1830, I was suddenly attacked at Prague by diarrhœa, as I frequently am after eating veal. According to my usual custom I drank plentifully of cold water, but the more I drank the more frequent were the motions; I took at the same time much, even fatiguing exercise, but to no purpose. On the third day, when I saw that no allevi-

ation was to be obtained in this way, and I felt myself weak, I left off drinking the water, resorted to cold sitting baths (Sitzbäder,) cold applications round the body, injections, restricted myself to food of a mucilaginous character and easy of digestion, and soon lost the diarrhœa. I had the same fate in the year 1837, in Hamburg, and last year in London, nor could I by drinking water alone regulate the functions of the organs, deranged by the use of food to which I was unaccustomed. I have frequently in my travels observed similar attacks in others, and have always found an extraneous admixture of the water to be the cause of these contrarieties.

In cases where the water has not the properties fitting it for internal use, it would be advisable to adhere to proper external modes of application of water, and in most cases we shall at last arrive at the desired result.

After this short digression, which was not altogether foreign to the subject, but appeared to me rather necessary, we will return to the rules for the internal use of water during the remainder of the day. Two or three hours after dinner the patient should turn his attention towards completing the quantity prescribed, with moderate exercise in the open air, and should be careful to have finished drinking several hours before bedtime. This is necessary to avert a number of evils, especially that the rest during the night may not be disturbed—which would otherwise be interrupted by a frequent desire to urinate.

I have already said that it is impossible, considering the differences in constitution, and in the nature of diseases, to determine *à priori* how much each patient should drink daily; but where cold water is in use as a remedy in disease, the patient should himself be careful to drink as much as he can bear without suffering. It will seldom be necessary to exceed the number of twenty glasses or ten pints

daily, nor must we ever diminish the quantity below five glasses.

We cannot be too active in warning the patients against drinking water to excess, or surcharging the stomach with water; especially as many patients incline to the opinion that in this way they may, as it were, wash away all their morbid affections in a few days or weeks. How grossly are all those deceived who hold this opinion! for if water can produce such astonishing and potent effects, it cannot be innocuous or inactive. Too many of these very distressing cases are unfortunately known to me, where persons, by injudiciously and immoderately over-loading the stomach, totally or partially derange this organ, and where disturbances of the digestive organs remained sometimes for life.

After such over-repletion of the stomach, certain ill effects make their appearance immediately, as nausea, loss of appetite, inflation of the abdomen, even sudden loss of consciousness, fainting, and danger of sudden death. A patient at Gräfenberg, who had drunk too large a quantity of water, fell into a state of insensibility from which he was only to be aroused after many hours by rubbing and cold affusion.

Simple and natural as cold water is as a remedy, it requires a certain power of digestion and assimilation to incorporate it with the body; it is therefore imperatively necessary to pay some attention to previous habits. Many persons who have derived benefit from cold water, are strongly prepossessed in its favour, and commence in this violent manner on every occasion, excite others to commit the same errors, and thus do much mischief. In fortunate cases, many escape without any material injury; but then it unfortunately happens, that they generally lose the courage to continue the cure with moderation, because the evil

they have experienced from the former excess has taken away their inclination to proceed. Every one therefore should at first test, by experiment, how much he is able to bear; for we cannot determine this point, in consequence of the difference in constitutions. He may then gradually progress, but he should never forget that a certain limit is to be observed, which no one can overstep with impunity. In cases where errors have been committed against this rule, exercise and exertion are the surest means of removing the ill effects.

Under the head of the internal uses of cold water, we may classify injections into the different cavities of the body, *e. g.* lavements, injections into the throat, ears, or vagina, &c. In the arrangement of a clyster, the syringe may be of any suitable form; it should, however, be such as can be used without the assistance of a second person: these instruments are to be recommended for convenience on journeys. This mode of using cold water cannot be sufficiently recommended in all congestions and diseases of the abdomen. We must, however, be careful not to make an abuse of this excellent remedy. The necessity for bringing it frequently into application occurs oftener in acute diseases, so that in the course of one day from ten to twelve injections may be given, as is sometimes necessary in dangerous cases of colic and constipations.

Where the use of clysters is indicated in chronic diseases, we must use them sparingly and with caution, the more so if we can foresee that we shall require them for a lengthened period of time; otherwise, by over-stimulating the lower portion of the bowel, the disease may be rendered worse, as frequently occurs. In very rare cases only, we can increase the number of one or two clysters daily. In obstinate constipations it is advisable, especially at the commencement of the cure, to use clysters not of cold, but

of tepid water, which will answer the purpose better. This rule is to be taken into consideration in the treatment of very irritable persons, especially again at the commencement of the cure. When the state of the patient will allow it, we can then proceed to cold injections; this must certainly be as soon as possible. For injections into the other cavities of the body, *e. g.* into the ears in diseases of the ear, into the urethra in gonorrhœa, into the throat, &c., we must make use of syringes constructed for the purpose. The syringes used for injection into the uterus, must also be constructed for that purpose; the apertures by which the water is forced into the vagina, must be very small. Knowledge and experience are, for many reasons, necessary in the use of the latter injections, to prevent injurious consequences. We must especially pay attention to the temperature of the water to be injected, and we should never resort to them but when they are urgently demanded by the circumstances of the case.

On rinsing the mouth and nose. (*Gargles.*)

The oral bath consists in repeatedly rinsing the mouth with cold water, which is retained for several seconds, and by bending the head backwards, brought in contact with the posterior fauces, which also require cleansing. This bath deserves especial recommendation, as an excellent tonic and purifier of the mucous membrane and salivary glands; its salutary effects extend also to remote organs, which are not brought in contact with the water.

The nasal bath (rinsing of the nose) consists in repeatedly drawing cold water up the nose, and again expelling it. This application has also a purifying effect, as a solvent of obstructions and depositions, invigorating and strengthening the structures.

THE EXTERNAL USE OF COLD WATER.

To promote and increase the effect of cold water, used internally, it is applied externally in a variety of ways, according to the objects to be fulfilled in the treatment. We may first mention

1. *Ablutions.*

These may be local or general: they are performed in the following manner :—The naked hands, or, better, a large sponge or woollen cloth is dipped into a vessel containing cold water, placed upon a chair. The sponge is to be gently expressed, and then conveyed for some few minutes rapidly over the whole surface of the body; water may also, at the same time, be poured over the head; but not every one is able to bear the latter application, especially in the winter. Another method of performing ablution with cold water, consists in wrapping a linen sheet, dipped into cold water, round the body, and thus washing all the parts; this process is more powerful, abstracting more heat from the body. In pursuing this or any other mode of ablution, it is advisable to stand in a spacious vessel, so that the water which runs off may not wet or soil the room in which the operation is conducted.

The best time, undoubtedly, for these ablutions, is the morning. They are to be performed immediately after rising from bed, when the temperature of the body is raised by the heat of the bed. The sudden change favours in a great measure the reaction which ensues, and excites the skin, rendered more sensitive by the perspiration during the night, to renewed activity. In some cases, and under certain conditions, more than one of these ablutions becomes necessary; the same operation may then be repeated at

different intervals. In most cases a second ablution before going to bed will suffice. Local ablutions will have to be repeated most frequently, where we wish to produce increased reaction; even in these cases the temperature of the body, or its natural warmth, should be restored before proceeding to a second ablution. To increase the beneficial effects of this washing, it should be accompanied by friction during the process; this is also essential immediately after it. Quite as necessary is exercise in the open air, if circumstances will in any way permit it. Very great invalids only may be allowed after washing to retire to bed.

Ablutions are, for the most part, preparations for a more powerful system of treatment, in order to accustom the body, by degrees, to water which is absolutely cold; tepid ablutions are, therefore, to be recommended at first, especially to irritable and weakly individuals, or such as have never brought cold water in contact with their bodies.

Ablutions continued for a quarter of an hour, or longer, act as a stimulant and refrigerant; those of shorter duration have a strengthening and exhilarating effect, and also the property of equalizing the circulation of blood, as may readily be perceived after general ablution of the whole body.

Cold ablutions are fitted for all constitutions; they are best adapted for purifying and strengthening the body; for women, weak subjects, children, and old age. Even in pulmonary complaints they produce alleviation, and even perfect amendment where these diseases have not made too great a progress.

The room in which the ablution is performed my be slightly heated for debilitated patients in winter, to prevent colds in consequence of too low a temperature of the apartment; this exception is, however, only admissible for very weakly persons. Generally speaking, ablution may be

performed in a cold room, especially where persons get through the operation quickly, and can immediately afterwards take exercise in the open air. After ablutions, as regards mildness of operation, follow

2. *Shower-Baths.*

These baths are taken in a machine, or box, (Schneider's bath,) constructed for the purpose. The internal arrangement of this machine or bath is such, that on opening the cock closing the pipes which communicate with a reservoir, the water is brought in contact with different parts of the body at the same time, in the form of many fine streams. Very weakly or irritable people may begin with tepid water, and they will soon accustom themselves to cold water, as these baths produce a very grateful impression. Those who cannot obtain a proper machine may stand in an empty bathing vat, or other vessel, sufficiently large, whilst an assistant standing on a chair pours water over them from a common watering pot, which answers the purpose perfectly.

The action of these baths consists in a general shock to the nervous system, and to the skin; in consequence of which, the secretion and excretion is promoted, and the whole economy benefited. As the action of shower-baths is closely allied to that of ablutions, they are justly preferred to these by many people, because their effect is milder, and more grateful, and the water, in the form of rain, is brought in contact with all parts of the body at the same time. They are to be recommended chiefly in diseases requiring repeated sweatings for their cure; for patients who, in consequence of congestions, and diseases of the chest, cannot bear the full baths after the process of sweating. These baths deserve recommendation to fami-

lies. Children may be best accustomed to cold water in these machines where the temperature can at first be raised, and then gradually decreased.

3. *Partial, or Half-Baths.*

All baths, where the common bathing vats are half or three parts filled with water, are thus denominated. The half-baths serve frequently as a preparation for the full-baths, (Vollbäder,) or for a more active system of treatment; they have, therefore, a higher temperature, between 59° and 77° of Fahrenheit. They should be continued from five minutes to an hour, or more, according to the purposes we have in view. If these baths be intended as a preparation for more active treatment, they must be of short duration, as also for persons who cannot bear cold baths, or full-baths. If our object be to produce a derivative effect, to remove congestions from other organs, the duration of these baths must be regulated by their effects. The patient must remain in them until revulsion is produced. Neither the temperature, nor the length of time, can be determined beforehand; this must be regulated always by the constitution, the nature of the disease, or the obstinacy of the case: generally speaking, a quarter, half, or a whole hour will suffice.

If our intention be to call forth a higher degree of reaction, or even fever, by these baths, the temperature must be lower, their duration extend from one to three hours. Baths continued for so great a length of time must only be used by the advice of a practical hydropathist, as they not only considerably derange the organs of digestion, but produce sufferings with which the patient was unacquainted before.

The whole time the patient is in these baths, he should continually rub himself with the water contained in the vat, extending the friction to the parts above and under the

water, that he may not take cold. If this mode of application be intended as preparatory to the use of cold baths, or to produce increased reaction, it is advisable to pour a few buckets of cold water over the patient before he rises from the bath.

Neither half-baths, nor any other kind of bath, are to be taken on a full stomach. Exercise, further, is especially to be taken after long continued half-baths; it must not, however, be neglected after the use of cold water in any form.

4. *Full Baths.*

For these baths spacious and deep receptacles are necessary; they should admit of freedom of motion, and fresh water (if possible) should uninterruptedly flow into them. That the body must be in a certain measure prepared for their use, I have already mentioned; and even after a proper preparation, as caution, it is desirable to wash the head, or pour cold water over it before entering the bath. This rule is to be strictly observed where the patient has perspired for a length of time, or where he is suffering from congestions of the head and chest. The latter circumstance requires our especial consideration where these attacks are increased after the first baths, notwithstanding the necessary preparation. Such patients must be spared the further use of them, to prevent dilatation, or rupture of blood vessels. Only young robust persons may, without injury, venture after protracted sweating to plunge suddenly into the bath without washing the head. It is, moreover, necessary, that every patient should enter the bath as soon as possible after gently and quickly cooling his head and chest; for all unnecessary delay is attended with pernicious consequences.

The length of time the patient should remain in the bath

varies in different cases; half a minute, or one minute, is generally sufficient; an experienced hydropathist only may prescribe full-baths for a lengthened period. During the bath the patient must exercise the members of the body. Immediately after leaving the bath he should quickly dry the whole body, using friction to promote reaction. If possible, he should perform the rubbing himself, and where this is impracticable, he should be aided by an assistant. Exercise after dressing is next required, where circumstances will allow it, in the open air, to further reaction also.

Cold full-baths are indicated in all those diseases where augmented reaction, invigoration, or a shock to the nervous system, is to be produced, where the warmth of the whole body is to be equalized; where all secreting and secerning vessels are to be invigorated; where the circulation of the blood is to be determined to the skin for the elimination of morbid matter.

These baths are to be avoided, or used at least with caution, in all congestions, in inflammations of internal vital organs, in diseases of the chest without exception, in certain head affections, in cases where a very active crisis ensues, and in all those where violent excitements or shocks would prove injurious.

5. *General plunging-baths.*

The plunging-bath should be taken, like the former bath, in a large reservoir or trough, filled with water. The patients, generally such who cannot of themselves enter the bath, are placed upon a chair above it, arranged by means of ropes and pulleys to move upwards and downwards, so that the patients in the sitting posture may be plunged into the water as deeply and as often as is necessary. As a substitute for an apparatus of this kind, the patient may be laid upon a sheet, held by several persons,

which is quickly plunged into the water, and again withdrawn. The intention of these plunging-baths is pretty much the same as that of the former; but their action is more stimulating, and the shock severer than in those cases where the patient can enter the bath unassisted, and use exercise whilst bathing. Hence one, for the most, five plunges, suffice to cool the body; in obstinate nervous fevers, however, they are occasionally to be repeated several times in the course of the day.

6. *River-baths.*

The action of river-baths is much the same as that of the full-baths, if the temperature of the water be the same. River-baths, however, are generally used in the middle of the day, when the sun has considerably raised the temperature of the water; in this case their action is not by shock, but is gently refrigerant, slightly stimulating the skin and nervous system—their beneficial effects extend to all the secerning and excreting vessels. Baths are erected for this purpose in the immediate vicinity of most towns in Germany, on the banks of rivers, and contribute by the security and the convenience they afford, to extend the use of the cold bath. Where the river is large, they are for the most part erected on rafts, firmly connected by chains and cables to the banks of the river. In many places their interior has a very pleasing construction; the floor is dealed, and the upper walls resemble a neat room; the lower consist of lattice-work, (on a large scale,) with intervals between the separate boards, so that the water passes freely in from all sides; steps lead down into the water to facilitate the entrance to and egress from the bath. In some cases these baths are constructed in such a manner, that the rays of the sun have access to the water from above, and fall upon the persons bathing, which is

said to have a peculiarly beneficial effect. The duration of a river-bath depends generally on its temperature; but it is neither necessary for the body, nor advisable, to protract them beyond a quarter of an hour, even when the temperature of the water is very agreeable. Far more active than these baths, are

7. *Wave-baths.*

They are also river-baths, but furnished with a peculiar contrivance to produce a powerful undulation of the waves, so that the volume of water or stream is brought in contact with the whole body, or, better, impinges on one part of it after the other uninterruptedly. A well-constructed wave-bath should admit of a modification of the force of the water; it should also be sufficiently spacious to enable the patient to expose himself to the waves at different distances. The action of the wave-bath is more powerful—more stimulating and invigorating than that of the former bath; it therefore frequently produces violent reaction. The shock of the water on the surface of the body determines the circulation of the blood and the nervous influence to the periphery. The length of time for their continuance should never be left to the option of the patient, but should depend upon his constitution and the temperature of the water, which varies considerably in rivers, even in summer. As a general rule, the shortest period should be five, the longest ten minutes, and the most proper time for their use is from ten o'clock in the morning till six or seven in the afternoon, in the months of May, June, July, and August.

8. *Local-baths.*

By this term, we understand baths of tepid or cold water, into which a portion of the body is immersed for a certain

period. Their action is more powerful than that of local ablutions. We will commence with

9. *Head-baths.*

They are applied, according to the object we may have in view, to different parts of the head, in the form of eye-baths, ear-baths, or derivative baths. The use of these baths is attended with some inconvenience. A large dish or basin is to be filled with water, and placed on the floor at the upper end of a mattress. The patient lays himself at full length upon the mattress, and immerses the part of the head to be bathed into the water; *e. g.* if it be an eye-bath, the whole face is to be introduced into the vessel filled with water. In this case it is necessary, moreover, to open and shut the eyelids, frequently, in order to bring the water in contact with the eye-ball. The duration of these cooling and strengthening baths is from two to six minutes, but both their duration and temperature are subject to variations. In some diseases of the eye, as we shall hereafter show, cold baths are not only inefficient, but they even augment the affection and sufferings considerably. Under these circumstances we must endeavour to discover the temperature best adapted to the case, and make use of other detersive baths as auxiliaries. These, and all other varieties of topical baths are to be repeated, according to circumstances, three to five times a day.

We use for these purposes also, boat-shaped eye-baths, resembling liqueur-glasses, and adapted to the shape of the eye; but baths in these vessels are less worthy of recommendation than the former bath, inasmuch as they contain a less quantity of water, and press moreover on the appendages of the eye.

The ear-bath is taken in a similar manner: the side affected, or where both ears are diseased, both sides are

to be alternately immersed into the water, so that it may enter the meatus. These baths should, with few exceptions, be cold; their duration should extend from six to ten minutes. A more protracted use of them is not advisable, because it would produce more injury than benefit. The same applies to all head-baths.

Where head-baths are used as derivatives for violent and local pains of the head, the side of the head opposite to that affected is immersed in the water for three or four minutes. This may be repeated several times during the day, if necessary.

If the head-baths are to have an anodyne or soothing effect in gouty or rheumatic affections, they should be used at a temperature of 59° to 72° of Fahrenheit. One side of the head, and then the occiput, afterwards the other side is to be plunged into the water, and this proceeding is to be repeated several times, until the desired alleviation ensues. In cases of necessity, this process may be repeated several times in the course of the day.

10. *Sitting-baths.*

For these baths we use water of various degrees of temperature. The vessel for this purpose is rather inconvenient, but so constructed that the patient can remain for the necessary time in it in the sitting posture. The dimensions of the vessel should be the following: height of the pedestal, four to five inches; the inner depth of the vessel nine to ten inches; height of the back, six to eight inches; whole breadth of the vessel, twenty-two to twenty-four inches. These baths are made of wood or tin; the latter, however, deserve the preference. The vessel in which the bath is taken should be filled with water, until it reaches the navel of the patient, when in the sitting posture. In especial cases, a greater or less height of water may be

requisite. During the bath, the upper part of the body is to remain covered, the shirt should be turned up, and the legs and feet are to be enveloped in a woollen coverlet. Whilst the person is in the bath, he should rub the abdomen with a woollen cloth, to increase the action of the skin, and to facilitate the passage of flatulent collections. The action of sitting-baths varies partly according to the length of their duration; partly according to the temperature of the water. Where they are desired to have a tonic action, the temperature should be from 50° to 59° of Fahrenheit, and they should be continued from ten to fifteen minutes. Of course they are to be repeated frequently during the day. To act as a stimulant, and to produce more powerful reaction, they must be continued for the same length of time; but their temperature must not exceed 41° to 44° of Fahrenheit. In summer, this temperature may be obtained by aid of ice.

Where the sitting-baths are to act as derivatives, determining the blood from parts which suffer from congestion, the patient must remain twenty minutes to half an hour in the bath. It is sometimes necessary during the bath to adapt cold applications (umschläge) to the parts affected; this is the more necessary, if the congestions increase during the bath.

If the sitting-baths be intended to produce a solvent effect, a moderate temperature of 59° to 68° of Fahrenheit, and rather a lengthened continuation of them, say from half an hour to an hour or more, will be required. It is, moreover, advisable, that patients suffering from obstructions or hæmorrhoids, should sit in deeper water; it may in this case extend beyond the umbilicus.

For sitting-baths in rivers a peculiar apparatus is necessary. A board with a round hole, about eight inches in diameter, is fixed about five or six inches below the level

of the water; on this aperture the patient is to sit. At a distance of more than one fathom from this board the water is to be confined by means of any suitable contrivance, so that it may be made to flow with force against the abdomen during eight, at the most fifteen minutes. In all abdominal diseases and in debility of the organs of generation, these baths are of extraordinary benefit.

Whatever object we may aim at in the use of these varieties of sitting-baths, we must not lose sight of the rule—that they are never to be taken immediately after eating, (unless especial cases call for an exception,) as they will otherwise derange the digestion and produce irregularities in the evacuations. The best time for the use of these baths is an hour before dinner, or before going to bed. In the latter case they offer the advantage of securing a night's rest to the patient. Generally speaking, two sitting baths a day will suffice; in particular cases, especially if not persevered in for a long time, five to six may be taken during the day. Exercise in the open air is to be strictly recommended both before and after these baths.

11. *Foot-Baths*

are taken in a small tub or in the same vessel as the sitting-baths. The temperature and volume of water must depend on the action we wish to produce. If these baths are to act as stimulants, they must be very cold, not exceeding 41° of Fahrenheit. The water should have a depth of one, at the most two inches, and the bath must not be continued longer than five minutes. They may be repeated several times during the day, according to circumstances. Rubbing immediately after the baths to promote speedy reaction, and also exercise after them, are indispensable. If the object of the foot-bath be to determine from the head or chest, the vessel must not be too large,

in order that the water may become somewhat warm during the bath, which may be continued in that case from twenty minutes to one hour. In this case the water must also not be as cold as for the former purpose, and should cover the ankles. If congestion increase during the bath, cold applications should be at the same time applied to the parts affected. Friction and motion of the feet are absolutely necessary during and after the bath.

A variety of other partial baths, adapted to the different members of the body, are brought into operation in a general course of treatment by cold water. The effect desired is obtained partly by the duration of the bath, partly by the temperature of the water, as I have before mentioned in speaking of local baths in general. Where the baths are to act as stimulants, the water must be very cold, not exceeding 41° of Fahrenheit; they may however be repeated several times in the course of the day if requisite. They are to be continued from five to eight minutes. By friction immediately after the bath, we arrive more speedily at the desired end.

If the intention of these baths be to produce a soothing or anodyne effect, their temperature must not be below 59° of Fahrenheit; they may however be continued for a longer period of time: fifteen to thirty minutes will in most cases suffice; they may also be repeated on the return of the attacks of pain. Where their action is to be derivative, the temperature should be from 46° to 59° of Fahrenheit, and they should be continued for half an hour to one hour or longer. If they are to produce this effect gradually and not rapidly, we frequently resort at the same time to applications (umschläge) to the part affected. Cooling applications frequently repeated will often lead to the desired result, and at other times applications producing

warmth will be most serviceable; we should therefore consider whether the object be to produce cold or heat.

12. *The Drop-bath.*

This term is applied to single drops of water falling from a height of several fathoms. For this form of bath a vessel is used filled with very cold water, and furnished with a very small aperture, through which the water passes in the form of drops. The small aperture should be partially closed by a plug, to prevent the drops from following each other in rapid succession. By these means their operation is considerably increased, and it becomes yet more potent if we allow the drops to fall upon a particular part at certain periods, and rub the part during the intervals. The reaction about to commence will indeed be thus interrupted, but will afterwards make its appearance in a more powerful and energetic form.

The violent excitement and irritation of the nervous system produced by these baths, render it necessary to restrict the use of them to half an hour; nor are they indeed adapted for vital parts or such as are abundantly supplied with nerves.

They are often used with more effect in obstinate and chronic cases of paralysis, than the douche or affusion, with which they may alternate. Powerful and continued friction with a horse-hair glove is never in this case to be neglected after the baths.

13. *The Douche.*

This description of bath is prepared with the aid of mechanical contrivances, by means of which a stream of water is made to fall upon the body with more or less

force. In many respects it is most advantageous to make use of a natural fall of water for this purpose; we can then conduct the water simply into a channel, giving it a fall of twelve to twenty feet, and to the stream a calibre of half an inch to five inches. These simple douches are far less disagreeable to the sensations of the patients than those of artificial construction. In the former the patient can turn himself freely and alter his position so as to expose any part of the body to the stream. Douche rooms, admitting by their construction of the access of the air from above, produce an agreeable sensation, especially in summer, and are very beneficial in their action. After the first time of using these baths, the dreadful ideas which many patients preconceive of them quickly disappear.

Our chief consideration in the use of the douche should be to guard against applying it to the body when quite cold, or when in a state of perspiration after active exercise. The patient after undressing in a moderate temperature, steps below the falling stream, attempting to receive it in the palms of his hands, that the whole force and volume of the water may not fall upon his body immediately, which is not, to say the least, at all times agreeable. After having thus prepared himself for the more potent shock, he must expose himself to the full stream, and, in such a manner, that the whole column of water fall chiefly on the neck and spine. From time to time he must equably expose the other members of the body to the stream; but the affected parts chiefly, and for a greater length of time. He should be careful not to allow the stream to fall perpendicularly on the head, chest, or on the region of the liver, especially if these parts be weak or affected with disease.

The duration of the douche must be regulated by the constitution of the patient, and the effect we wish to pro-

duce; it should never be continued for less than one, nor more than twelve minutes.

Where a natural douche is not to be obtained, we make use of the well known machines resembling a fire engine in shape and construction. By means of these contrivances we may bring one or more streams of any given force into operation. Our care must be directed to the selection of cold and fresh water for this purpose; finally, the same rules are to be observed which we laid down for the use of the former douche.

Artificial douches may be made to answer the purpose of sitting-baths in rivers, where the latter are not to be obtained. For this purpose the stream must be continued and of considerable calibre, but not of too great force.

There are, beside the douches mentioned, peculiar apparatus for the application of douches to the eyes and ears. The stream should in these cases be very fine, about the size of an ordinary knitting-needle, and should be directed uninterruptedly to the part, but not with too much force. Eight minutes should be the full extent of the duration of these local douches.

To the species of bath under consideration belongs the Sturz-bath (Sturzbad.) It differs from the douche, only in as much as a larger quantity of water falls upon the whole body from a considerable height. In cases of need, the following simple contrivance may be substituted for it. A person standing on a chair, table, or in any raised position, pours water from a large vessel over the patient's head. The duration of this bath extends from a quarter of a minute to three minutes.

The period of the day at which these different douches (excepting those for the eye and ear) are used, varies. They are only to be taken, as an exception, fasting, or immedi-

ately after sweating, and never on a full stomach, nor oftener than once or twice daily.

Rather active exercise should be taken after the douche, until the peculiar sensation of reaction has totally disappeared, or an uncomfortable sensation of cold accompanied by head-aches, fainting, &c., will be experienced, instead of an agreeable and beneficial glow. It is, moreover, not advisable to drink cold water immediately after the douche, because a rapid generation of heat is thus impeded, and inflammations of the stomach and bowels might be caused.

The young and the robust, in whom reaction is powerful, may have trespassed, indeed, against this rule with impunity, but those who cannot boast of youth and strength, should the more strictly observe it. I have met with cases in persons of low powers of reaction, where, from neglect of proper exercise after the douche, death had nearly resulted, and was only to be averted by great care and exertion.

A captain on half-pay, from Vienna, aged 64, took the douche rather late in the day, and retired to his room to rest. I found him, after missing him at the supper table, sitting on a chair in a perfect state of insensibility, and supported from falling by two chests of drawers. Involuntary evacuation of the fæces and urine had taken place during the convulsion. Affusion with cold water, alternating with friction, produced vomiting in about eight minutes, as a consequence to the shock of the stomach. The pulse, which had totally disappeared, and respiration also, were restored, and the patient was thus in reality saved. In all probability he would have remained in this state of insensibility, and have died, if assistance had been afforded him but a few minutes later. The douche, in addition to the powerful symptoms of reaction it produces, such as reddening and swelling of the skin, &c., has an exceedingly

stimulating action on the vascular and nervous systems, and is, therefore, the best means of putting morbid elements into commotion, exciting all the functions of the organism to increased activity, and determining the morbid elements to the skin and secerning vessels, where they are eliminated.

The douche, the most powerful stimulant known in hydropathy, is always applicable where excitement is necessary, but attention must be paid in every case to age, constitution, and to the vital powers. Cases are not infrequent, where the nature of the disease calls for this stimulant to complete the cure; but where it must be avoided in consequence of pregnancy, pulmonic affections, &c. No mode of applying cold water is more abused than the douche; in most hydropathic establishments, even at the present day, this is unfortunately too often the case. But very few experienced hydropathists regard it as a stimulant requiring caution. For the most part it is looked upon as a remedy indispensable to every cure, is brought into use injudiciously and without mature deliberation, and continued to the detriment of all organs; the beneficial results, therefore, which a judicious use of it would produce, are necessarily oftentimes frustrated.

14. *Local applications (Umschläge.)—Wet bandages.*

By these applications two different effects may be produced, viz., that of cooling the part to which they are applied, or that of raising its temperature. Where they are intended as refrigerants or derivatives, the cloths must be of a size suited to the part inflamed; they should be folded six or eight times, dipped into very cold water, gently expressed before application, and are to be renewed every four or ten minutes, according to the degree of inflammation. If we cannot obtain water sufficiently cold in summer-time,

ice must be added to it until its temperature sinks to 41° or 44° of Fahrenheit. This low temperature is especially necessary in dangerous inflammations of important organs, *e. g.*, of the brain. The bandages must then be continued without intermission, day and night, until danger is averted. Neglect in changing the wet cloths (umschläge) at the proper time, will cause fatal results. One omission of the change is sufficient to frustrate their beneficial operation, for violent reaction is only to be subdued by continued cold.

The warming applications of cold water consist of pieces of linen folded two or three times, and dipped into cold water; they must be well expressed before application, and not changed until they begin to dry—this is the indication for their repetition. This variety of application must be not only well adapted to the part, but is to be further secured against the access of the air by a dry bandage, in order that the reaction it produces may generate a degree of heat in the part covered exceeding the temperature of the body. The combined action of the moisture and heat thus produced, is that of a solvent of morbid matter, dispersing swellings and indurations, which are thus rendered more fit for absorption and elimination. These applications are not only well adapted for the removal of tumours, but may be applied also with great benefit, in various cases of affections of the abdomen. Their efficacy in all derangements of the digestive organs, and diseases of the liver, &c., is proved.

The applications to the abdomen vary somewhat in form from the former bandages. A piece of linen two yards in length, and rather more than one foot in breadth, is to be doubled, sewn together, and furnished with strings, to enable us to adapt it closely to the body, and secure it in its situation. In using the bandage thus arranged, about one foot of it in length should be wetted with fresh water, well

wrung out, and applied round the body; thus the wet portion will extend once, the dry part twice round the body. These abdominal belts are to be worn, according to the urgency of the case, sometimes for several hours in the day, or through the whole night; in some instances, again, for weeks, both by day and night.

15. *Applications round one half of the body, or round the whole body.—Wet linen sheets.*

For this purpose the bed must be prepared in the same manner as for the process of sweating. The wet sheet is laid upon the extended blanket, the patient lays himself at full length upon the former, whereupon it is folded round him, so as to come in close contact with every portion of the body. The patient is now to be enveloped in the blanket and bed covering, (feather beds.)

The wet sheets are of remarkable utility in all febrile diseases. In acute fevers they must be changed according to the degree of heat, every quarter or half hour, until the dry hot skin of the patient becomes softer, and more prone to perspiration. When this symptom is observed the renewal of the wet cloths may be delayed for a longer period, until perspiration actually ensues. The patient must then remain for several hours in this state until uneasy sensations, and other inconveniences render it necessary to extricate him; but it is more advisable to keep him in the loosened envelopment until perspiration ceases spontaneously, when a tepid ablution, or half bath should follow. In acute eruptions of the skin, measles, scarlatina, small-pox, &c., the wet sheets are not less serviceable, when the eruption cannot make its way to the surface in consequence of the dry state and heat of the skin, and of the violence of the fever; or where the rash has receded suddenly, owing to other disturbances. In both cases the wet sheets are of

essential service; one application of them suffices sometimes to re-establish the eruption. If the rash fail to make its appearance after the first or second envelopment, cold affusion is to be preferred. There are cases in which the use of this remedy may be deemed objectionable, and a continuance of the wet sheets may appear more proper; we must then examine the skin carefully before every change, to see whether the eruption be nearer the surface, the skin softer, and the heat abated. In the latter case the applications are to be discontinued, that the reaction of the skin may not be disturbed. The wet sheets, followed by tepid ablutions, cannot be sufficiently recommended in all diseases of children. Many severe complications are averted or relieved at least by them; or, where this is not the case, the disease itself is brought more speedily to a favourable termination.

The envelopment in wet sheets is not only of great advantage in acute diseases, but is also an admirable remedy in a variety of chronic cases, attended with an irritable, rough and inactive skin, and in a multitude of skin-diseases; but in all these cases a frequent change of the sheets is seldom necessary. In using the envelopment we generally raise the temperature of the patient, and occasionally allow him to perspire, according to the circumstances of the case. Determination to the head during the process must be removed by cold applications to that part. If the feet remain cold for a long time in the wet cloths, and show no disposition to become warm, they are to be extricated and wrapped in the dry blanket only.

16. *Sweating.*

In the treatment by water, perspiration is brought about in the following manner:—The patient is undressed and laid upon a woollen coverlet or blanket, extended on the

bed. A servant wraps first the one side of the blanket round the body of the patient, drawing it close in all directions; grasping now firmly with the one hand the portion in which the patient is enveloped, he draws with the other hand the blanket round the patient, and tucks this portion also closely under him. Care must be taken that the coverings be in close contact with the body, especially at the neck, that the heat given off by the body may be well retained and cannot escape. It is the excess of caloric thus confined which induces exhalation from the skin. Individuals who are to perspire for several hours, and cannot retain their urine long, may be furnished with an urinal, placed between the legs at the time of wrapping them up. The head may be included in the covering, or enveloped even in the pillow, so that the face alone is free, provided the patients do not suffer from congestions. The head must remain uncovered on the other hand, if a disposition to congestion be observed. Slight excitement of the vessels before the outbreak of perspiration, generally passes off spontaneously; but where this favourable termination does not ensue, a cooling bandage (umschlag) is to be laid on the head of the patient, who must, at the same time, drink a little cold water. Warming applications (umschläge) are to be wrapped round all parts affected with nodes, gouty swellings, &c., before enveloping the patient. The use of these auxiliaries is to allay pain, which is generally more violent before the appearance of perspiration, and to excite a more copious exhalation from the parts to which they are applied.

Patients who are very restless in the blanket, and thus loosen it, should be confined more closely in the encasement by additional cloths and girths, as they would otherwise have to remain wrapped up during half a day or longer. Persons thus enveloped being totally helpless, an

assistant should be always in attendance to open the windows as soon as perspiration ensues, and to administer, every ten or fifteen minutes, as much cold water as is necessary to promote perspiration. The action of the skin must be kept up uninterruptedly, and the perspiration should pass off in form of vapour, or in drops, as long as the case requires it.

The result of this mode of treatment is pretty certain, but the time necessary for the production of diaphoresis is not the same in all cases; for some individuals perspire sooner than others. The season, and many other inevitable circumstances, exert, moreover, a considerable influence on the skin; thus some patients, especially in summer, will perspire in a quarter of an hour, whilst others require three to five hours for that purpose. In febrile and inflammatory diseases, we frequently cannot produce diaphoresis in less than twelve or twenty-four hours, although we change the wet sheets often, and resort to other auxiliary means.

The best time for exciting perspiration in chronic cases, is in the early hours of the morning, from four to five o'clock at the latest. In acute diseases, the time depends on the fever itself, or on renewed exacerbations; it must be produced therefore when required, without reference to time. A repetition of the process twice on the same day, is only admissible and advisable as an exception. The indication for such practice would occur more frequently in chronic than in acute diseases, because in the latter perspiration should be kept until t ceases spontaneously, or is interrupted by other circumstances. Two sweats daily can only be recommended to the robust, and even these persons will not be able to endure the protracted sweating required in some few troublesome cases, without injuring the skin and other important organs.

We cannot determine *à priori* how long each patient should sweat. The ordinary duration in chronic cases is from half an hour to three hours daily; but moderate perspiration is to be encouraged for a longer time in acute diseases. Critical diaphoresis requires the longest duration, and should not be disturbed; we should rather in this case do everything in our power to aid and promote it, until it cease spontaneously.

When the patient has remained in a state of perspiration long enough, the woollen covering should be loosened about his feet and legs, to enable him to walk. The attendant then raises him in bed, and leads him to the place where he is to bathe or wash. Sedan chairs, or other contrivances, will be necessary to convey patients quickly to the bath in serious cases. No danger is to be dreaded from the transition from heat to cold, (as experience in many thousand cases has proved) if the necessary precautionary rules laid down for the use of full-baths be duly observed; for in this mode of producing perspiration, important internal organs are not excited.

After the bath, patients who can walk, or take other exercise, must not return to bed; but should dress quickly, go into the open air, drink the quantity of water prescribed, and afterwards take their breakfast. Those patients, on the other hand, who can take no corporeal exercise, must be rubbed after the bath for some time, the friction extending over the whole surface of the body. This peculiar mode of inducing perspiration is to be brought into use in all diseases where morbid matter is to be eliminated from the system, because the skin, as daily experience teaches us, is the organ best adapted for this purpose. At the commencement of the treatment, the perspiration is clear and aqueous for some time; at a later period it becomes more viscid, then varies in colour, and assumes a powerful

odour. The urine, at the same time, or later, in the course of treatment, assumes the same properties in colour and odour; open sores and the breath participate in this change. These symptoms usually make their appearance at different intervals, in a protracted case. Critical excretions seldom continue without intermission from their first commencement, until all extraneous substances are removed from the body; it is true that this phenomenon is observed sometimes, but it is always a rare occurrence, and the critical discharges will then not unfrequently continue two to four months. In two patients, who had suffered for years, I observed these beneficial appearances in a very marked degree for a very long time—in the one case during ten, in the other during fourteen months.

There can be no doubt that an incalculable quantity of morbid matter is removed from the body in the act of perspiring; for it is often to be recognised by the organs of sense by its colour and odour during the process. Most striking is, at times, the odour of valerian, turpentine, iodine, musk, assafœtida, sulphur, and mercury. The colours observed are generally confined to red and yellow; brown and blue are less frequently met with, the latter occurs often in the deposits in the urine, which may assume also all other colours.

CHAPTER VI.

ON DISEASES CURABLE BY COLD WATER.

On Fevers in General.

Febrile diseases are of frequent occurrence: the symptoms of fever are therefore well known to all, and may be readily recognised; but it is more difficult to describe a fever, or distinguish at the commencement of the disease with which variety it may be classed.

I cannot enter into scientific theories of the nature of fevers, far less discuss the question "how they originate," or run through their various stages. These scientific explanations would certainly not be out of place; but I hope to be more useful to the public in confining myself to the outward signs of fevers, and by pointing out their causes, leaving hypothesis and theories of the nature of the disease to more speculative minds. The prominent symptoms of fever are affection of the head, languor, a sensation of weight in the limbs; changes in the temperature of the skin from heat to cold, whilst that of the surrounding atmosphere is moderate and remains unchanged; rigors in various degrees, from shivering to chronic spasms; the nails and lips are livid, and the skin is usually pale, cold and dry; the mouth and tongue are parched and dry, and the thirst is excessive. More or less heat, accompanied by rigors, next ensues; the skin now becomes hot, red, and tumefied. With the appearance of the heat, all the symptoms of fever increase. In addition to these various derangements of the skin and other excreting organs, delirium and halucination make their appearance, and remain

not unfrequently until recovery gradually ensue, or the disease assume another form.

The exciting causes of fevers are manifold, as over-stimulating, over-nutritious diet, exposure to cold northern and easterly winds, suppressed exudations of blood, excess of exercise, colds, abuse of spirituous liquors, contagion, &c. Amongst the external causes, we may reckon impure air, malaria, the effluvia generated in sick wards, occasionally in ships, residences, &c.

During the treatment of fever, the patient must abstain from meat, butter, cheese, eggs, all stimulating food or drink, and observe a strict regimen. His food should be cold, *in but few cases* warm. His beverage should be solely and simply pure fresh spring water. The air of the sick-room must be pure, dry, and in no case too warm. Every thing is to be avoided that could excite the patient, bodily or mentally. Evacuations should be secured daily. The patients should lie on mattresses, and the linen is to be frequently changed, especially where there is much perspiration. Uninterrupted sleep is not only beneficial but indispensable for fever patients, especially where they have been deprived of their rest for some time. Visits or conversation, which might disturb the patient, are interdicted; he should never be waked, even to take nourishment or to obey a medical order.

Inflammatory Fever.

This species of fever occurs chiefly in the young, plethoric and robust; it rarely attacks old people. The disease commences with shivering, which seldom lasts longer than one hour; this is succeeded by heat and dryness of the skin, extending over the whole body, accompanied by brightness of the eyes and a flushed countenance. The pulse is full, hard, and quick, the mouth and lips are parch-

ed, and the thirst becomes excessive. Respiration is, during this stage, hurried and labouring; there is no exhalation from the skin, the urine is passed in less quantity and is of a high colour. There is in most cases constipation. Sleep is disturbed, and the patients are generally delirious; often waking with starts.

The most frequent cause of inflammatory fever is exposure to cold, during the prevalence of dry winds, after the use of spirituous liquors, and, in women, upon suppressed menstruation. The treatment of this fever is very simple. On the first appearance of febrile heat, the patient is to be wrapped in the wet sheets, in the manner before described, and wet bandages (umschläge) are to be applied to his head at the same time. The latter are to be changed more frequently than the former where there is violent headache, or determination to that part. The sheets must be repeated, according to the degree of fever, every half-hour or hour. In slight cases a change once in the hour will suffice. If the patient feel relieved after three or four applications, and his head be clearer, he may then be washed with cold water of about 55° of Fahrenheit. If he can leave his bed he should take moderate exercise in the room, or in summer time, during fine weather, in the open air. The patient evinces little disposition to perspire the first or second day, whilst enveloped in the wet sheet, nor is it necessary to force it, for if the patient experience but slight relief after several envelopments, he may proceed to ablution. Where the fever is violent, and the patient plethoric, a more frequent repetition, perhaps twenty or forty changes of sheets may be required, before he may resort to ablution; the necessity for this very active treatment is, however, rare.

Thirst should be at all times relieved by cold water. In some cases patients are unable to express their desire for

water; they must then be urged to drink, especially if the skin remain hot and dry. If, after ablutions, the fever again appear, it must be again combated by the wet sheets, by night or by day. This proceeding is to be repeated as often as the fever, dryness, and heat of the skin require it.

The febrile symptoms being somewhat abated by the use of the wet sheets for several hours, the skin should be examined to see whether perspiration is likely to ensue, in which case the application must be continued until perspiration is fully established. We may now slightly unloosen the envelopment, and administer cold water to the patient.

During the process of sweating, the patient should be allowed to drink frequently, but not so copiously as to check perspiration.

When the patient has passed several hours in a state of perspiration, and he can no longer bear his position, he should be washed with water at 66° of Fahrenheit; laid again in a fresh bed and lightly covered, when the skin will generally resume its activity. If the exhalation be even copious, he should continue drinking cold water from time to time, perform a total ablution daily, at first with tepid water at 66° of Fahrenheit, subsequently with cold water. During the whole course of the disease, the bowels should be kept open, by clysters if necessary. When the patient has regained his appetite, his nourishment should consist, for the first few days, at least, of weak broth and stewed fruit, and subsequently of other light food.

In some cases, perspiration is both tardy and scanty; if, however, the patients improve and progress steadily towards recovery, this circumstance need not alarm the medical man, or induce him to alter the treatment. It is only where patients suffer much and make no progress, that a use of the wet sheet, repeated once or twice daily, and perspiration continued for one hour, or, according to

circumstances, for a longer period, must be insisted on. An ablution with water, at 54° to 65° of Fahrenheit, accompanied by an affusion of cold water, is then to follow; the latter, not before the patient has for several minutes washed with chilled water. In these fevers, vomiting, constipation or diarrhœa, sense of oppression in the chest or abdomen, are frequent symptoms. The two latter are best combated by well-wrung bandages applied to the parts affected. The indication for their change must be the patient's sensations. If he feel relieved when the bandages have become warm they may be continued; if, on the other hand, cold applications be more grateful to him, they should be more frequently changed. Constipations are to be removed by injections, which may also be used twice or thrice daily, even in cases of diarrhœa. It is understood that these clysters must be of cold water. If a fever of this kind make its appearance after a protracted use of the cold water, it is usually symptomatic, and may be regarded as a premonitory sign of a crisis established by nature for the removal of the chronic disease under treatment; when therefore the state of the patient is not too dangerous, we should always allow nature to act for herself, as every ill-timed attempt to assist her operations in subduing the fever, by a frequent change of the wet sheets, &c., would produce consequences injurious to the patient: the ultimate success of the case, or removal of the chronic disease, depends upon this operation of nature (the crisis.) It is impossible to lay down a plan of treatment for these cases; our practice must be regulated by complications, and symptoms accompanying the crisis. We should by no means be over officious; and in every case it would be advisable to limit ourselves to local treatment, directed to those individual organs which are chiefly endangered. Every interference with the system generally

should be avoided, and only in those cases where the efforts of nature threaten to overstep all bounds, are we called upon, for the preservation of the patient, to counterbalance her excessive activity by all means at our command. This state of general excitement must be combated by half-baths, at a temperature of 73° of Fahrenheit, continued for half an hour to one hour, or longer; and accompanied by the application of wet sheets, to be changed frequently and at proper intervals of time. Cooling bandages and partial baths are best adapted, on the other hand, for a state of critical excitement of individual organs.

Various diseases may be the sequels of inflammatory fever, but I have always been able to avert them by a judicious use of cold water, in the early stage of the treatment. Complaints are heard in many hydropathic establishments of these troublesome consequences, which occur more frequently where general excitement has been necessary. As a result of bad treatment of these fevers and crises, it may be mentioned that patients frequently carry their chronic diseases to the grave.

Gastric Fever.

This fever is met with most frequently in summer and autumn, as a consequence of derangement of the digestive organs by unwholesome food, exposure to cold, &c. The precursors of the disease are generally headache, vertigo, loss of appetite, an aversion to animal food, flatulence, nausea, vomiting, and constipation. The first attack of the fever is generally ushered in by a rigor, recurring perhaps several times; this is followed by headach, heat, and great thirst. Sleep is interrupted; the tongue white, becoming in the course of the disease yellow, or brown, coated and dry; accompanied by an unpleasant faint, putrid, acid, or bitter taste. The fever has the peculiarity of increasing

during the night, whilst it is scarcely perceptible during the day; and, generally speaking, it terminates with perspiration in the morning.

The causes of gastric fever are irregularities in the diet, where digestion is weak; indulgence in animal food, and in the use of spirituous liquors; exposure to heat or cold; and, lastly, mental emotions.

Where the malady is caused by overloading the stomach with fat animal food, strict diet is above all considerations indicated. The patient should drink cold water plentifully, and take much exercise in the open air.

Where this proceeding does not suffice, he should wash the whole body with cold water every morning, again an hour before dinner, and take a sitting-bath at 59° of Fahrenheit, of three quarters of an hour duration, one hour before going to bed; a well-wrung bandage should then be applied round the body, and repeated when it becomes dry. If the inclination to vomit continue, a copious use of cold water (thirty half pints daily, or more) must be ordered.

This large quantity of water need not to be persevered in, in most cases, longer than one or two days before the nausea will cease; generally speaking, vomiting or diarrhœa ensues, promoted by the internal use of the water, and continues until the gastric or bilious impurities are removed from the stomach. After these evacuations all the bad symptoms generally disappear, when a moderate internal and external use of water, temperance, and diet are only requisite to complete the cure.

Far more frequently these derangements of the digestive organs are caused by cold, or mental emotions; in these cases the treatment must be very different, especially where the fever runs high at night, and where sleep is interrupted. The treatment which experience has led me to pursue, is the following:—Towards the evening, when an exacerba-

tion occurs, I order the patient to be enveloped in a wet sheet, where he remains for one hour. At the end of this period, I have him wrapped in a smaller damp cloth, (well wrung,) commencing below the arms, and reaching to the knees, so that the upper extremities and legs remain free; over this a blanket is passed in the usual manner, but rather loosely, and the patient, thus enveloped, is covered by a light feather bed. Perspiration is in this manner brought about after some time; it should be kept up for one hour or longer. This is followed by a full-bath of an ordinary temperature; or in winter, when their use is attended with some difficulty, by a half-bath at about 59° of Fahrenheit.

I frequently hear the questions, "Why should the envelopment be loose, and the wet sheet of smaller dimensions? Would not a large sheet answer the purpose quite as well or better?" My answer is this: I have frequently made the unpleasant discovery, that even the best attendants seldom pay due attention to the patients. They will often leave them, during the greater part of the night, in a state of perspiration, until they are so exhausted that they can scarcely walk to the bath in the morning. This is not the only grievance of which the patient complains; many other inconveniences may trouble him during the night, which he is thus forced to pass in a state of helplessness. The mode of envelopment last mentioned affords the patients many advantages. They generally pass a quiet night, and can perform many little offices for themselves, *e. g.*, alter their position, increase or diminish the covering, &c. Perspiration does not break out before the morning time, when the patients can use the bath, and strengthened by it, proceed with the other treatment prescribed. Every four hours during the day these patients should wash the lower part of the body for several minutes with cold water,

and use sitting-baths for five, at the most, eight minutes. Sitting-baths continued for a long time are injurious, they not only add to the derangement of the digestive organs, but cause dangerous diarrhœas, derangements of the liver, and other complaints.

Constipation should be combated at times by bandages round the body, and by clysters, repeated seven or eight times a day, if necessary; and if an evacuation will not result, their use must be persevered in until we have attained our end. The bandages are not to be renewed before they are perfectly dry.

Gastric fever is sometimes accompanied by diarrhœa. In this case the patient, who is always inclined to drink water copiously, should be encouraged in this propensity for the first three or four days. It would be difficult to determine the exact number of glasses he should drink, as this depends on the constitution of the patient. Robust persons may take, perhaps, thirty half pints daily; whilst for weak and sensitive subjects, ten to twelve will suffice. After the lapse of the first few days, when bathing, sweating, the use of two to three clysters daily, and copious potations of cold water, have produced the desired effect of purging the stomach and alimentary canal of gastric impurities, the hydropathic treatment should be continued with moderation. Sweating and bathing are indicated as long as the fever continues; but as soon as this diminishes, the sweating in wet sheets must be left off, and simple ablutions may then be substituted for the bath. Clysters should be discontinued after the first three days, as they would otherwise keep up diarrhœa, and weaken the patient without arresting the fever. The potations should now be reduced to one half in quantity, and well wrung bandages are to be applied round the body. At the commencement of the treatment, these applications are less advisable, be-

cause when much water is taken internally, they abstract too much heat from the organs of digestion, and are, in a debilitated frame, frequently the sole cause of the continuance of fever and diarrhœa. Where the applications remain wet for a long time, we may conclude that the temperature of the digestive organs is below *par*, in which case dry bandages are more advisable. Obstinate diarrhœa is best combated by clysters of cold water to which starch has been added, and by the use of mucilaginous food.

A number of complications attend this form of fever, which it would be superfluous to enumerate, as the treatment specified applies to most of these cases. I must yet mention, that where one mode of treatment makes no impression upon the disease for a length of time, it should be changed for another. The use of the douche once or twice, will frequently produce an alteration of the whole state of the disease, and thus render our former treatment efficacious. Sometimes a half-bath, of 59° to 66° of Fahrenheit, continued for one hour, or longer, will give a favourable turn to the disease, and then the simplest treatment will complete the cure. We should never commence our treatment with these extreme measures, especially where the patient is very much reduced by the fever. Several cases have come under my observation where incessant diarrhœa, reducing the patient to the verge of death, (and to which those affected with weakness of digestion were chiefly victims,) was caused by this ill-timed and powerful treatment at the commencement of the case.

Mucous Fever

may be classed amongst the preceding diseases. It differs from gastric fever in the quality of the accumulations in the *primæ viæ*. In the former, they consist of mucous, in the latter, of bilious matter. The premonitory symptoms

of mucous fever do not differ essentially from those of gastric fever. The patient loses his appetite, the tongue becomes covered with a white mucus, his taste is faint or lost; then follow nausea, oppression in the region of the stomach, turbid urine, pallor, &c. When these symptoms have continued for some time, and the stomach is much affected, eructation, diarrhœa, and, less frequently, constipation ensue. Rigor, flushes, and fever, accompanied by copious perspiration, are the symptoms next in order. The latter is very weakening to the patient where there is at the same time diarrhœa, with frequent mucous stools. The thirst is moderate, the pulse nearly natural, but rather accelerated towards the evening. The proximate causes of mucous fever are wet weather, damp residences, and affections of the digestive organs. Persons of sedentary habits, who take little exercise in the open air, and whose bodies are bloated by intemperance, are chiefly attacked.

Hydropathic treatment will always cure these fevers; nor have I ever seen them assume a typhoid or nervous type, although they are seldom cured within three or four weeks.

The patient must lie in a dry and cleanly room, change his linen frequently, and avoid all mucilaginous food. The chief treatment must be directed towards the stomach and alimentary canal. By copious water-drinking and lavements, the organs should be purged of impurities. Where our endeavours are successful in a few days, and the mucus is cleared from the digestive organs, the fever and nocturnal sweats will yield to the use of wet sheets.

Where the fever runs high, the wet wrappers will be necessary in the forenoon and afternoon; but a repetition of the wet sheets will be seldom required—one application will suffice each time. When the patient is perfectly warmed, and a moderate exhalation has ensued, he should

be rubbed with a linen cloth which has been dipped in cold water, and slightly wrung. If he can conveniently leave his bed, he should dress, take gentle exercise, and drink cold water. In the mild season of the year, when the weather is fine, it is advisable to take this exercise in the open air.

It will be necessary, in addition to the envelopment in wet sheets, followed by friction with wet cloths twice daily, to apply a well wrung bandage round the body during the night; and where the diarrhœa is not violent, to drink cold water copiously. In cases complicated with costiveness, where the evacuations are forced, and of a mucous character, three to four injections daily may be added to the former treatment, and two sitting-baths to be continued twelve minutes only.

Supposing the fever to have yielded to this treatment, and weakness of the digestive organs to be the only sequel, it will be necessary, as long as this continues, to perform an ablution of the whole body in the morning; persevere at the same time with the use of cold water internally, and to wash the abdomen for a few minutes twice or thrice in the course of the day.

The same dietetic rules to be observed in gastric fever apply to mucous fever, with the exception, that mucilaginous food is less admissible in the latter disease.

Catarrhal Fever

occurs only as a complication of a catarrh, or cold, and frequently runs through its stages without danger, even when unchecked by medical skill. Injudicious treatment, on the other hand, may cause grievous consequences and complaints, as sequels of this trivial fever. Catarrhs may run their course without febrile symptoms; most cases, however, are attended by fever. Its presence is denoted

by flushing and rigors, especially towards the close of the day, by a sensation of weariness and weight in the limbs, heat and dryness of the skin. The face is bloated, and the mucous membrane of the throat is frequently affected. The causes of catarrhal fever are, cold north-easterly winds, changes in the weather, suppressed perspiration, &c.

Opinions respecting the regimen to be observed in catarrhal attacks, have hitherto varied much. By far the majority incline to the opinion, that warmth and frequent sweating are required in the treatment of this disease; this view, however, is erroneous, and the practice based upon this prejudice, if pursued and strictly carried out in repeated catarrhal attacks, is often the sole cause of incurable pulmonic affections, or of laryngeal pthisis.

The hydropathic treatment of catarrhal fever is more simple than the disease itself. The most prominent injunction is, that the patient remain in a cool uniform temperature in the open air, if possible. Where the weather prevents this, he should remain in a room at a temperature of 59° of Fahrenheit, until the weather is more favourable. If from any cause the patient be confined to the house, he should keep himself in action by sawing wood, or by the performance of other exercise calling forth bodily exertion; but he should never remain sitting, or keep his bed to indulge in reading, &c.

At the commencement of this fever, the patient should wash the whole body in the morning immediately after rising, and in the evening an hour before retiring to bed, with water at 59° of Fahrenheit. Where the fever is rather high, these ablutions will not suffice; they must, therefore, be preceded by one or two applications of the wet sheets, morning and evening, in which the patient should become thoroughly warm. Spontaneous perspiration seldom ensues during the first three days; and if, after the

lapse of this period, a disposition to act be not observed in the skin, the patient should pass the night in the wet sheets in order to excite it to exhalation. This sweating, produced artificially by the wet sheet, as well as the perspiration which, in some cases, occurs spontaneously at night time, should be promoted for several hours, but with moderation. The sensations of the patient must be taken into consideration. If moderate exhalation relieve him, he may pass two to four hours in this state; where, on the other hand, it is ushered in by determination to the head or chest, and these symptoms will not yield to wet bandages and frequent potations, the patient should be washed with water at 66° of Fahrenheit, within the space of one hour. An ablution of this kind is to be performed in every case without reference to the duration of diaphoresis.

The duration of this period of exhalation from the skin is generally short. Spontaneous perspiration ceases of itself; that artificially provoked is guided by the degree of fever. The process of envelopment is to be discontinued as soon as febrile symptoms have abated, and the patient feels the relief.

During the whole course of the fever the mouth and nose are to be frequently rinsed; at first we should use water which has stood some time, subsequently fresh water. The same rule applies to the temperature of the potations, which should be copious with the first appearance of exhalation from the skin, for they promote this action, and materially modify the fever.

Where headache is severe cold bandages frequently renewed are to cover the whole head; the use of these applications, however, is only advisable before perspiration appears. During this period cold bandages, and all partial head or footbaths are to be avoided as pernicious; for the slightest influence is capable of prolonging the sufferings of

the patient. They not unfrequently cause chronic catarrh, hoarseness, loss of the voice, or of its metallic sound, loss of odour, difficult breathing, &c.; and in women, suppression of menstruation, with a variety of other ailments.

Constipation, if present, must be overcome by tepid clysters.

The diet must be simple, cool, and should consist chiefly of cold vegetable food. The sick-chamber must be kept cool, as we have already observed, and the patient should take as much exercise as possible, for the most part in the open air, even in winter time. Frequent experience has proved the efficiency of this regimen in catarrhs, and its capability of shortening the duration of the disease may be tested by every one, although this practice is in direct opposition to the prevailing treatment by warm vapour, fomentations, &c.

It may be objected to my observation, that catarrhs have at all times been cured by the latter proceeding, that therefore a new system of treatment, the efficacy of which is not so well proved by practice, is superfluous and uncalled for.

This objection must, however, fall to the ground, if we consider the greater advantages derived from the system of treatment by "cold;" the frequent occurrence of catarrhs offers opportunities to all of convincing themselves of the truth of this assertion. By this treatment the duration of the disease is not only shortened in a manner more agreeable to the patient, but the tendency to take cold is also diminished, or entirely overcome. The latter advantage alone would entitle it to the preference, considering the present physical condition of man. Persons who are subject to frequent colds, would do well to wash their neck and chest with cold water, and to gargle the throat and mouth every morning, to abstain from all warm articles of food, and warm or spirituous liquors, to avoid warm clothing and

warm ablutions, and to take plenty of exercise in the open air. In this manner they would prevent the frequent recurrence of the disease, and ultimately put an end to their predisposition to colds.

Very closely allied to catarrhal fever is

Influenza, or la Grippe,

whose symptoms have much in common with catarrh; they are: dryness of the nose, hoarseness, and a sensation of dryness in the trachæa, extending downwards to the chest, and at the commencement of the disease a dry cough. Head affections are more severe in this case than in catarrhal fever, and the patients complain of fatigue and vertigo. The febrile symptoms resemble those of simple inflammatory fever, *e. g.*; the pulse is quick and hard, the skin hot and dry, the thirst excessive, the respiration hurried and difficult, the urine high-coloured, &c. This disease is epidemic; its cause therefore is a peculiar state of the atmosphere recurring at certain periods of time, and spreading rapidly. The more rapidly it extends in a certain district, the sooner it will terminate. The treatment of a simple form of this disease, resembles that of catarrhal fever. At the commencement of influenza, a more cooling plan must be adopted than in the latter fever, because the head is more severely affected. Cold applications to the head, frequently renewed, are therefore indicated. The patient should continually wash his mouth, and draw cold water up the nostrils; he should further be encased in the wet sheets, and, when thoroughly warmed, subjected to cold ablution or affusion.

This treatment, accompanied by the internal use of cold water, is to be continued for the first three days by day and night, according to the severity of the case. In this manner the disease is frequently arrested in its progress; and

many patients attacked by influenza, are restored to health at the expiration of the third or fourth day; whilst in ordinary practice it runs through all its stages. I had frequent opportunities of making this observation in the year 1837.

If, by the third or fourth day, a slight amendment only be observed, no critical secretion of perspiration and urine, or of a thick and ropy mucus from the nostrils have ensued, it will be necessary to provoke perspiration by the use of the wet sheets, and to maintain this action moderately for several hours; the longer, if the patient experience relief. After this process he should wash with water of 66° to 68° of Fahrenheit. If he be able to leave his bed, he should dress and take exercise; when the weather is fine, in the open air.

One envelopment is sometimes sufficient to establish the secretion of the skin; sometimes several will be required to make the patient perspire during the day, or at least during the night. That the wet sheets and bandages become unnecessary with the first appearance of critical excretions, is understood; but as long as these critical symptoms are observed, the patient should wash at least once daily with water of 66° of Fahrenheit. Gargling of the throat and mouth, as well as the copious doses of water, should also be diminished in frequency. During the crisis we may leave the patient at rest, and should be the less active the more quickly he recovers.

Occasionally a cough will remain for some time, which is very injurious to the chest; this may be relieved by repeated gargles of cold water. Where, during the disease, or immediately afterwards, the evacuations are tardy, we should endeavour to accelerate them by lavements.

Where persons affected with diseases of the respiratory organs, lungs, &c., are attacked by influenza, a treatment

modified to the circumstances of the case becomes necessary. The greatest caution is also requisite as regards the abstraction of heat, where there is a deficiency of internal (vital) heat, as in old age.

Intermittent Fever.

This fever is denoted by certain paroxysms, returning at definite periods of time. During the intervals between these fits, the patients are free from all symptoms of morbid action.

It is difficult to give a correct delineation of this fever; but its attacks are marked by a succession of heat, cold, and sweating. The cold stage is generally the first observed. It is ushered in by a sensation of cold in all the extremities, which become livid; this symptom is accompanied by chills and shivers, &c. The precursors of the cold stage are generally languor, uneasiness in the limbs, pallor of the countenance, and headache. When it has lasted for half an hour, one hour, or longer, it is succeeded by a glow and general dryness, and heat of the body. The countenance assumes a flushed appearance; headache and thirst increase. The duration of this hot stage varies from one to six hours, or more, and is succeeded by the sweating stage, which usually lasts as long again as the former. Perspiration is now copious, viscid, and sharp, and with its appearance all the symptoms accompanying the hot fit gradually decline.

Besides these usual symptoms, there are certain variations in the nature of the fever itself, which scarcely admit of minute investigation. The febrile attacks present themselves in some cases with heat alone, in others with cold, with or without perspiration; in others again the hot stage precedes the cold stage. In addition to these varieties, there are a number of trifling remitting symptoms, which

offer no peculiarities. Intermittent fever is denominated according to the recurrence of the attacks: *quotidian*, when it occurs daily at one and the same hour; *tertian*, where it makes its appearance every other day; *quartern*, when two clear days intervene between each attack. This fever may occur at all periods of life. It originates in impaired digestion, constipation, excessive mental exertion, the use of drastic purgatives, &c. It further shows itself during damp and changeable weather, especially in spring and autumn. Those intermittents are most malignant which are caused by great heat in marshy countries.

Where intermittent fever is not severe, and is caused, perhaps, by biliary or mucous matter in the stomach, our first attention must be directed to the removal of these impurities from the digestive organs. For this purpose the patient must drink cold water abundantly, the effects of which will be acid or bitter eructation, nausea, or vomiting. In the latter case, large doses of water should be persevered in, to promote and facilitate the vomiting, until the stomach is cleared of a number of impurities. If vomiting, on the other hand, should not ensue within thirty-six hours, but eructation and abortive attempts continue, clysters should be used without delay of water at 66° to 68° of Fahrenheit, and the abdomen should be frequently rubbed with the dry hand or flannel. If this treatment be followed by an evacuation of thin motions, the diarrhœa should be encouraged by a moderate use of water internally, and a continuance of the injections for one or two days.

Should we not succeed in producing purging by these means, the patient must be placed in a half-bath, at a temperature of 59° to 66° of Fahrenheit, during two or three hours. As long as he remains in the bath, he should rub the abdomen himself, whilst two attendants perform the same operation on the other members of his body.

After the bath and friction, the patient should dress and take rather active exercise in the open air, if the weather be fine, to equalize the temperature of the whole body rapidly. If the first bath, and the moderate potations and clysters be not followed by purging or vomiting, the half-bath must be repeated on the ensuing day, and will probably produce the desired effect. These copious evacuations of alvine impurities by the stomach and alimentary canal, aided by a moderate regimen and light food, will frequently effect a perfect cure of the fever.

It sometimes happens, that the paroxysms of fever recur notwithstanding these evacuations, or that neither vomiting nor purging ensue under this treatment, and that the fever remains. In this case the disease calls for our greatest attention; and it will become necessary, with every fresh attack, to wrap the patient in the wet sheet and blanket, and leave him in that situation until perspiration has ceased. The envelopment should take place as soon as the cold stage is past, and heat succeeds. If the paroxysm of heat be protracted, the wet sheets must be changed once or even twice. It will be further requisite to apply repeated bandages to the head, until the action of the skin is fully established. The patient should, during this period, drink cold water plentifully, and continue it even during the process of sweating.

As soon as perspiration ensues, the sheets—if the envelopment be too close—are to be loosened, so that the patient may be enabled to move in them—a great relief to him in this position. After the cessation of sweating, which may be in one hour, or not before two or three hours, the patient may take a cold bath, but the temperature of the water should not be below 55° of Fahrenheit. Where a bathing-vat cannot be obtained, rubbing the whole body with wet cloths will suffice to reduce the heat.

The patient should, after dressing, take exercise for several hours, occasionally drinking cold water, and not until after this exercise should he take light nourishment; he may also, at times, wash the abdomen with cold water, and wear well wrung cloths round the body. After pursuing this plan during a week, or at the most a fortnight, the fever will cease, unless it depend on some peculiar cause.

Old neglected intermittents, where medicines have been used in vain, often give the hydropathist much trouble; but there is no case, to my knowledge, on record, where this treatment of obstinate fever was unsuccessful; the exact plan of treatment, however, cannot be determined beforehand, considering the numerous complications of the disease. The chief indications are, to remove biliary or gastric impurities from the alimentary canal, and to promote the secretion from the skin. Exceptions, however, to this rule exist, as the following cases will show:

A man, aged forty-six, who had suffered during eight years, alternately of nervous fevers, affections of the liver, and jaundice, was received into the establishment on the 8th of July. Latterly he had suffered for more than a year uninterruptedly, of a quartern intermittent fever, which defied all remedies. The paroxysms came on at 2½, P. M., with violent shiverings, lasting about two hours, and were followed by heat and thirst, but not by sweating. The patient, however, complained of languor, dry cough, pain in the region of the liver, loss of appetite, a bitter taste, and irregularity of stools, the bowels not being open daily.

Our first endeavour was to regulate the evacuations. As we could not succeed, we endeavoured to produce sweating, as soon as the hot stage made its appearance. Perspiration was not copious the first time, but it subsequently increased. The patient had now undergone these sweatings, followed by baths, bandages round the body, clysters,

and large doses of water for six weeks, and had at the same time observed a judicious diet, but without beneficial result; sitting-baths, at first in vessels for the purpose, afterwards in the river, were therefore added, but these proved also insufficient. With the best conception of the case, and consideration of its prominent symptoms, both during and after the paroxysm, and with the most careful decision on the treatment, we could not succeed in arresting the progress of the disease. After the use of cold baths, continued for two hours or more, the fever disappeared indeed, but soon reappeared with another type, and subsequently these baths lost their effect. All modification of treatment had now been tried in vain, with the exception of the douche, during nearly three months; and I had already formed the determination to dismiss the patient, if the douche should prove inefficacious. I placed little reliance in this form of bath, knowing, from experience, that the use of it in these fevers rather interferes with the cure. I have frequently had opportunity of witnessing the sudden return of paroxysms of fever after one single douche.

This patient now made use of the douche only daily during six minutes, but the fever returned, without any change, on the usual days. On the ninth day, however, I observed that his skin assumed a remarkable yellow tinge. On inquiring into the state of his health, he answered that he had felt languid and sleepy since the preceding day; but his sleep on the ensuing night was disturbed by startling dreams, notwithstanding his sensations of weariness.

The next day was the day of fever: the paroxysm was announced by intense headache, and came on two hours earlier than usual. The heat and dryness of the surface continued, notwithstanding the frequent change of sheets during this and the following day, until perspiration at last ensued, accompanied by complete jaundice. The use of a

lavement now produced a copious evacuation, followed by a second in two hours, in both of which several gall-stones passed away.

From this time the fever did not return, and the jaundice disappeared in the course of eight days. The patient now recovered his appetite, his rest was undisturbed, his motions were regular, and his sensations generally were those of health. In a few days he was discharged cured.

The second and more singular case was that of a lady, aged thirty-six. She was of scrofulous diathesis, but had enjoyed good health from childhood to her seventeenth year. In her eighteenth year she had been attacked by nervous fever, and had suffered in the following year during eighteen weeks of an intermittent. She had been troubled afterwards for a length of time with perspiration of the feet. After a cold, this perspiration was suddenly suppressed, and she then suffered during five months from shortness of breath. The difficulty of breathing terminated with swelling of the legs and ancles. By the use of various remedies she was cured of the latter symptoms, and the patient had passed a year in tolerable health, when several tetters made their appearance on the thighs, extending to the knees. This eruption caused her much uneasiness, and was removed by the use of an ointment. A short time after this cure, the intermittent fever again made its appearance, and had been treated in vain with a variety of medicines during sixteen months, when she was received into the establishment.

The paroxysms came on every three days at about eight o'clock, A. M., with a cold fit lasting for one hour, followed by heat and slight perspiration; great thirst and slight headache were experienced. The patient was very pale and emaciated. The bowels acted irregularly; nor could a favourable change be effected by the most powerful ope-

ration on the organs of digestion. The action of the skin was defective; all measures which usually promote perspiration failed, or had but a partial effect, in this case. The envelopment produced any thing but copious perspiration, and the patient was obliged to bathe with a dry skin, especially after having lain for a long time in the wet sheets, because the short sweating fit which followed the hot stage of the fever had then long passed. All modes of applying the water, even the douche, (which I use as an exception only) were of little efficacy during a period of thirteen weeks. The fever indeed did not make its appearance for several days, but returned subsequently with its former obstinate character. The patient now began to despair of recovery, and could scarcely be prevented from exaggerating the treatment. She ordered her attendant one evening to wrap her up closely, that the blanket (kotze) might not become loose, as she was determined to pass the whole night in the envelopment, and to force perspiration. The attendant obeyed her orders, and carelessly left her; but she had scarcely quitted the room, before the patient was seized with fear, accompanied by frightful images and fancies: the idea of an apoplexy, strangulation, robbers, and a number of fancies of the kind, tormented her excited imagination and possessed her mind. In vain she attempts to loosen her bonds, the close encasement defies every effort. This circumstance augmented her anxiety and trouble, and the poor sufferer began to perspire violently. Before eleven o'clock at night she was quite bathed in perspiration. Every effort for freedom was in vain, and exhausted her (according to her own account) to that extent, that towards three o'clock in the morning she fell into a state of insensibility; nor did she recollect the arrival of the attendant at five o'clock, or the occurrences after that time. The servant, on entering the room, found the patient in apparent sleep,

and observed, when she received no answer to repeated questions, that her mistress lay bathed in perspiration, and nearly lifeless. Promptly and without consideration she tears the envelopment open, washes her head, chest, and arms with the cold water she had brought with her, and has, in a few minutes, the pleasure of seeing her patient return to her senses. She now immediately ran in quest of me.

I found the patient in a very exhausted state; her voice was scarcely audible, she complained of violent headache confined to the forehead, of singing and other noises in the ears, and especially of a sense of oppression and weight in the chest. The thirst was excessive, the mouth dry, respiration short and hurried. Thus several days passed, and the patient did not recover, although applications of water, known to invigorate and strengthen, were actively employed for her relief.

Constipation seemed to defy the clysters and other applications, and not until the expiration of the fourth day was the first evacuation procured. The total inactivity and dryness of the skin, caused by the violent excitement of the system and by protracted perspiration, rendered it necessary to return to the use of the wet sheets, to stimulate the skin to action, and, if possible, again to provoke copious perspiration. The envelopment succeeded: the patient perspired without much inconvenience, and from this time the activity of the skin perceptibly increased. Ten days after the accident before mentioned no paroxysm of fever had recurred; but the patient complained of dryness of the mouth, nausea, pain in the region of the liver, and of interrupted rest. The next morning she showed me a spot below the left breast, where the skin was red and inflamed, which caused her great inconvenience, on account of its heat. A bandage, and as there had been no

alvine evacuation for three days, a lavement were ordered. Three days after this a large tetter presented itself at the spot where the skin was previously inflamed. All the untoward symptoms gradually declined from this time, and the fever entirely subsided. I should very much have wished the patient to remain in the establishment until the affection of the skin had been cured; but circumstances would not permit her to prolong her stay.

I could communicate several cases of obstinate intermittents beside the two I have detailed, to show how necessary are patience and perseverance on the part of the patient, and attention to apparently trivial collateral circumstances on the part of the medical man, in order to decide upon the suitable treatment, and to effect the cure.

Nervous Fever.

A series of premonitory symptoms often precedes the appearance of the disease itself; the precursors may, however, be wanting: the most usual are, a sense of oppression, weight and pain in the head, languor and weariness of the whole body, interrupted sleep, distaste for occupation, and loss of appetite for a considerable length of time previous to the attack.

The commencement of the fever is denoted by chills and flushes, with increase of the headache and languor. Many other symptoms are now added, viz., giddiness, vertigo, inclination to sleep, delirium, twitching of the muscles (*subsultus tendinum.*) The pulse is irregular, inconstant, (quick or slow, at times scarcely perceptible,) generally small and hard, sometimes tremulous, and remittent. In the course of the disease the spirits vary much, the patient is at times restless, excited or depressed, or he may lie tranquil, regardless of what passes around him (*stupor.*) Sensation is impaired; his speech unintelligible, abrupt,

slow. The mouth is parched, the tongue white or brown, furred, and fissured. The skin offers various symptoms; it is generally dry, at times corrugated, seldom moist: at the termination of the disease there is sometimes desquamation of the skin, and the hair and nails fall off. Digestion is always impaired; the loss of appetite is often complete. The bowels are confined or relaxed. In severer forms of nervous fever, convulsion, temporary loss of sight, deafness, and other nervous symptoms are not infrequently superadded. The stages and character of this disease vary so much, that it scarcely ever runs the same course in two individuals. It is, therefore, impossible to give a faithful delineation of this fever, and the reader must rest content to find its most common forms more fully described. The exciting causes of nervous fever are also various. Amongst the most prominent are peculiar changes in the air; hence the frequent occurrence of this disease in marshy districts, damp residences, hospitals, and such localities where vegetable or animal matter is passing into a state of putrefaction. It attacks most frequently those persons who are very much debilitated by exhausting diseases, *e. g.*, by immoderate loss of blood, continued diarrhœa, excesses in venery, the abuse of spirituous liquors, by colds, muscular exhaustion, excessive mental occupation, fear, and grief.

Inflammatory nervous fever is characterized by an exaggerated condition, or general excitement of the nervous system. The head is generally hot, the eyes are prominent, sensations of flashes of light in the eye, (*photopsia*,) singing in the ears, (*tinitus aurium*,) vertigo, and sometimes various degrees of delirium are superadded. The derangement of the nervous system is peculiar, the senses are all exalted; the pulse varies, it is nearly always irregular; where the fever is high, generally quick, frequent,

and hard; thirst is excessive, and yet the patients, for the most part, forget to drink.

The treatment in the first stage must be guided by the degree of fever present, and by its character. The more violent the inflammatory symptoms, the oftener the wet sheets and the plunging bath should be repeated. On the part of the medical man, the greatest attention will be necessary to combat every dangerous symptom as it makes its appearance. Our first care should be directed to the heat which succeeds the precursory rigor. A slight degree of heat may frequently be allayed by two to four applications of the wet sheets every quarter or half hour. If, on the other hand, the heat be not abated, but rather increased by their use, it will become necessary to remove the patient, by means of the sheet on which he lies, to a plunging bath. This is best effected in the following manner:— Four persons, each holding a corner of the sheet, lift the patient from the bed, and dip him once, twice, or three times into a large vessel filled with cold water. The patient should now be again put to bed, and lightly covered. If he become composed, and the heat be abated, and congestions be not observed, nothing further will be requisite but potations, which must be offered him frequently until a renewed attack render the envelopment or plunges into cold water again necessary. A single attack of fever may thus call for a repetition of the envelopment and plunging bath ten or twelve times before the heat and excitement are allayed. The more violent the febrile attacks, the longer are the remissions or intervals between each paroxysm; if they be less violent, they recur more frequently and at shorter intervals, often several times during the day. During the first seven days the patient should by no means be subjected to sweating, which will not afford him relief, but may even cause dangerous congestions of the head and

chest. Even spontaneous perspiration is, during this period, of no advantage to the patient, and should, therefore, not be promoted, nor interfere with the use of wet sheets, which may be continued with safety, if guided by the degree of fever.

In the first stage we have only to regulate the fever, and prevent determinations to individual parts. Although the hydropathist has but one remedy at his command, he will, by cold water in the form of wet sheets, plunges, and affusion, effect more towards a diminution of the heat and fever, than any other practitioner, let his therapeutic agents be ever so varied.

Cold bandages will be the surest remedies to combat congestions of the head or chest; they should therefore be applied during the first seven days without further consideration.

The action of the bowels requires especial attention; if it be tardy or even accompanied with tenesmus, repeated clysters of cold water will be necessary. If the cold water return without producing the desired evacuation, a lavement of lukewarm water may be tried, but we must immediately return to the use of the cold injections.

Symptoms of an opposite nature, diarrhœa, which for the most part shows itself in the second stage of the disease, must be combated likewise with cold clysters, but with this difference, that they are not to be so frequently repeated, and that starch may be added to them in obstinate cases. As soon as the diarrhœa is abated, the clysters should be less frequently used, or entirely discontinued. If the loose stools increase in number we must again resort to the use of injections.

Supposing the first stage to be terminated, and critical perspiration to ensue about the fourteenth day, accompanied by a moist tongue, more regular pulse, and a diminu-

tion of the nervous symptoms, we may reckon upon a favourable termination of the case. From this period our sole care must be not to interfere with or check the action of the skin; to maintain the regularity of the bowels, and to offer the patient simple and light food with moderation and caution. Externally simple ablutions from time to time with water from 66° to 68° of Fahrenheit, will be only necessary to remove the viscid impurities deposited by the perspiration on the skin.

A favourable crisis does not in all cases make its appearance about the eleventh or twelfth day, and we are frequently called upon to use every endeavour to produce artificially a crisis in the skin at least, at this period. To accomplish this object we must rub the body of the patient with flannel before wrapping him in the wet sheets. This envelopment must take place as soon as the heat and fever appear. If a continuance of the febrile symptoms requires a repetition of the wet sheets or even plunges into cold water, we should immediately proceed to the use of these measures, to reduce the heat and render the skin more prone to exhalation. This point being gained, we may allow the patient to remain two to four hours in the wet sheets, with a view of promoting perspiration. If we do not succeed the first time, the same proceeding must be repeated on the second day, and indeed persevered in until perspiration be established. The protracted use of the envelopment, requisite for the production of an artificial crisis, causes sometimes congestions of the head and chest, which must be treated by repeated cold bandages to these parts. The action of these applications will be more certain and favourable if the patient drink at the same time cold water in small but repeated doses.

When diaphoresis is fully established, it must be promoted and kept up by a more copious internal use of cold

water. If the patient, after the first or second time of sweating, feel much exhausted, he may be removed from the envelopment after the lapse of one hour; but he must subsequently remain encased for several hours, and the longer indeed, the more he feels relieved by sweating. After the first forced perspiration, spontaneous exhalation generally ensues, which we must by no means check, especially if the fever at the same time abate, the tongue become more moist, the urine cloudy, and other favourable symptoms appear. In such cases the skin should be washed with lukewarm water as soon as perspiration ceases; where perspiration has been forced, on the other hand, we must always bathe the patient or wash him with water of 64° to 68° of Fahrenheit. Bandages, as I have before observed, should be left off with the appearance of the crisis; the only exception to this rule is, where the glands swell, especially below the lower jaw. Our attention is directed to these small swellings by the patients themselves, who complain of stiffness of the lower jaw; for their formation is always attended with pain. A warming bandage (well wrung) must in this case be applied to the part affected, which is not to be changed until it has become quite dry. A dry bandage moreover must be passed closely over the former, to produce heat, as the formation of the swelling might otherwise be checked—a circumstance fraught with danger to the patient, and accompanied sometimes by brain affections (*cerebral metastasis.*) We should therefore encourage the swelling by proper means, until it is gradually dispersed, or, as more frequently occurs, passes into a state of suppuration.

In the treatment of inflammatory nervous fever, a judicious diet is imperatively necessary. From the first stage to the time of the crisis, simple mucilaginous soup or gruel will suffice; and as beverage we may give the patient, be-

sides cold water, acidulated mucilaginous drink, where there is no diarrhœa. All other nourishment during this first period is not only superfluous, but absolutely pernicious. When the crisis has made its appearance, more nutritious food may be given to the patient, but sparingly: at first broth and the yolk of eggs, subsequently he may progress gradually to the use of solid animal food.

Another species of nervous fever is typhus, (*abdominalis.*) The precursors of this fever resemble those of the former, with the exception that in typhus the thirst is greater, and that diarrhœa prevails chiefly at night. The fever commences with a rigor, followed by continued heat. The patient complains of a sense of weariness, weight in the limbs, affection of the head, noises in the ears, giddiness. The eyes have a peculiar dull appearance, sleep is disturbed; the tongue is covered with a white or yellowish fur, accompanied by a bitter or faint sickly taste in the mouth, and nausea. During the first three or four days there is constipation, which is followed by the frequency of stools before mentioned. The motions are of a greenish yellow colour, feculent, and at times mixed with blood.

In the further course of the disease the febrile symptoms increase, the skin becomes rough and dry, the pulse small and accelerated, varying from 110 to 120. To these symptoms are added tremor, delirium, twitching of the muscles (*subsultus tendinum,*) and defects of vision (*muscæ volitantes.*) At this period, the nervous symptoms become more prominent, the patient is observed to lie chiefly on his back and to mutter unintelligible words to himself; hearing is diminished, or there may be perfect deafness; his strength declines and his countenance is changed, plainly indicating stupor. The tongue of the patient becomes more dry, the mouth, teeth, and even the cavity of the nose are covered by a thick ropy coating (*sordes,*) which returns if removed;

the stools increase in frequency; sometimes involuntary discharge of urine takes place, and not infrequently other complications are added; as affections of the chest (*pneumonia*,) and inflammation of the liver.

Typhus attacks chiefly the plethoric, robust, and young. The exciting causes are nearly the same as those mentioned in the former chapter on fevers. The treatment of this dangerous disease is guided partly by the stages, partly by the peculiar symptoms of the fever. At the commencement of sickening we should endeavour to remove the headache and nausea by copious potations and clysters, and if possible give the disease a different turn. To fulfil this object it will be necessary to give the patient, even where the loss of appetite is not complete, cold water only, and to order him to wash the abdomen frequently with cold water. This treatment should be continued until vomiting or purging ensue, and gastric impurities are thus disposed of. In this manner we shall sometimes succeed in breaking through the chain of morbid symptoms and in suppressing the fever. If the disease progress, nevertheless, the most active and best conducted treatment will not arrest its course. It will run through its various stages, and we must then be content to moderate the fever, diarrhœa, and congestion, and endeavour to bring the disease to a favourable termination by the external and internal use of cold water. With the first appearance of violent vascular reaction and fever, we must have recourse to the wet sheets, and plunges even into cold water. The febrile symptoms are confined (as a rule) to a definite period; we should, therefore, await them, and proceed to the use of the wet sheets with the first appearance of heat. The sheets should be renewed every quarter or half hour until the heat is reduced, but not with the view of forcing perspiration. The patient should now be washed with cold water or bathed

If the excessive heat cannot be diminished by the use of the wet sheets, we may bring the plunging-baths, as before mentioned, into application. After this the patient should be conveyed to a clean bed and lightly covered; and thirst may be allayed by cold water, be he in the envelopment, or not encased.

Determination to the head we should combat by repeated cold wet cloths, and where these alone will not suffice, well wrung bandages should be applied to the feet; the wet bandages are to be covered with dry cloths, and to remain until they are quite dry. The same treatment applies to all parts of the body affected with violent pain, congestion, or inflammation.

Constipation at the commencement of the disease we should endeavour to remove by potations, and where these will not suffice, by injections. The diarrhœa which always occurs in this disease, deserves more attention. If lavements of simple cold water fail to diminish the frequency of the evacuations, and the motions be even mixed with blood, clysters with starch should be used, and discontinued as soon as the stools become less frequent. This peculiar diarrhœa recurs at different periods during the course of the disease; it is therefore not advisable to trouble the patient with clysters for a length of time, but it is better to discontinue them, and return to their use as occasion may require.

Pain, and swelling of the abdomen, (*tympanitis*,) is to be treated by well wrung bandages round the body, and by ablutions.

Little attention is to be paid to the violent, even fœtid, perspiration, which occurs during the first seven days after the appearance of fever; for the treatment which the fever or other circumstances may require, is to be continued

even if these exhausting sweats come on at a much later period.

The true crisis appears at a later period in typhus than in inflammatory nervous fever; as an exception it may occur on the seventh day; but, generally speaking, it will not show itself before the fourteenth, seventeenth, or twenty-first day; or not even then. Where critical symptoms are not observed after the lapse of this term,—which in the water-cure is seldom the case—every exertion must be made to produce critical perspiration or secretion of urine. For this purpose, the patient must be wrapped in a wet sheet to perspire. Even if the first or second attempt fail, the practitioner should by no means be deterred from making a further trial, but rather encouraged to persevere with this treatment, until he succeeds in producing exhalation from the skin, or critical deposits in the urine. The skin will then become soft and moist—at first periodically, subsequently permanently; the tongue will become soft, the pulse more quiet, the urine lighter in colour, and gradually less turbid. Sleep, of which the patient was for a long time deprived, is now uninterrupted. If these favourable symptoms ensue, spontaneously or through our instrumentality, the patient should be left at rest, and neither troubled with the use of cold water internally nor externally. Thirst only is to be allayed with cold water; and the skin, and especially the eyes, nose, and mouth, must be frequently cleansed with water.

Insatiable hunger generally follows: it will be the more urgent the longer the disease has lasted. The appetite, however, is to be very sparingly satisfied, because an excess acts very injuriously on the ulcerations in the intestines. The patient should therefore be fed at first with very light soup, afterwards with other light digestible food. Stimu-

lating animal food he must not indulge in for some time to come.

We do not always succeed in removing the disease thus rapidly and favourably, for a number of adventitious circumstances frequently prolong its course, or render only partial recovery possible. Some of the baffling causes are not to be discovered; others again, though we may be acquainted with them, cannot be removed. How often it happens, that (notwithstanding the most judicious and careful treatment,) a decided favourable crisis cannot be brought about within a term of forty days or longer! I will illustrate this by a few cases hereafter.

Bleeding from the nose is a frequent symptom. This is to be allayed by a cold application to the root of the nose (*radix nasi*,) and the introduction of a pledget of lint, dipped into cold water, into the bleeding nostril. Should this treatment not suffice, a damp bandage is to be applied to the neck.

In retention of urine, sitting-baths of 73° to 77° of Fahrenheit should be used from one quarter of an hour to half an hour. Should two or three sitting-baths not fulfil the object, a catheter must be passed. The necessity for the latter proceeding will be rare, as the baths alone, generally speaking, will suffice, except in cases where the patient, from excessive debility or other causes, cannot use them.

Cold bandages should be frequently applied to inflamed spots, and to boils; but in the latter case they should be well wrung, and less frequently changed, to promote suppuration.

Many other symptoms occur in these fevers, which I will not particularize, as the applications they require readily suggest themselves, and the general treatment is not modified by them. In conclusion, I will relate a few remarkable cases in point:

Miss N. N., from P., aged twenty-one, of robust and plethoric constitution, had menstruated regularly from her eighteenth year, and enjoyed uninterrupted health from earliest youth, although she was of scrofulous habit. I must not forget to mention, that she had suffered in her infancy, of measles and scarlet fever. She came to the institution as companion to her sister, who was an invalid, and not to use the cold water cure. She sickened on the 23rd August with violent headache: her eyes were prominent, the heat of the whole body was increased, the skin dry, the appetite impaired, but the thirst excessive, and she complained of a sense of weariness and weight in the limbs. She was ordered to use cold water internally, and, as there was constipation, clysters, and bandages to the head. This treatment neither produced vomiting nor copious evacuation of the bowels within the space of twenty-four hours, and the patient was wrapped every five minutes in a wet sheet, on acccunt of the increased heat of the body, which was moderated in the course of thirty-six hours. By the third day the headache, heat, and dryness of the body were nearly overcome, and menstruation had appeared, but less copiously than formerly; appetite had returned, and she could rise from her bed.

During her period, the wet applications, baths, &c., were discontinued, according to my usual practice. Whether I acted judiciously in this case it is difficult to say. I certainly blamed myself severely when, on the fourth day after her period, or on the eighth after sickening, she complained again of indisposition, which was accompanied on the same night with diarrhœa. The patient passed the night restlessly, and the stools, five in number, were copious and mixed with blood.

On the following day the evacuations were of the same character, notwithstanding the use of lavements to which

starch was now added. In nine hours after the first, and in twenty-four hours after the second clyster, no evacuation followed. The next motion was without blood, only rather darker in colour. This improvement remained during the following days; but on the tenth day of her indisposition, typhus was completely established. The skin, especially when the fever made its appearance, was burning, dry, and rough; the headache was supplanted by delirium, the pulse was small (130 to 140 strokes in the minute,) the urine was dark-coloured, the muscular power declined daily remarkably, the countenance changed more and more, and diarrhœa recurred generally every fifth day. Although the greatest attention was paid to all the symptoms to moderate the fever betimes, the period of the twenty-first to the twenty-third day passed without the desired crisis. Many symptoms had become worse; the delirium was permanent; the patient muttered constantly; the tongue, which up to this time had been moist at the edges, became quite dry and covered with a dark viscous coating, which adhered to the teeth, and subsequently to the interior of the nose.

After water had been used without effect for several days in various forms to stimulate the skin and force a crisis, and the state of the patient having become bad enough to justify the most unfavourable prognosis, her friends called a consultation of several physicians, residents at the time at the establishment, to decide whether she might yet be saved by any means. The five physicians declared unanimously that the disease had proceeded so far that, judging from the symptoms, she could scarcely recover; they could not however agree in the choice of the medicines. Two of them advised tonics to support the declining strength, the others, acids or antiseptics, to arrest the decomposition of the fluids. This diversity of opinion caused the water-cure

to be continued. Thirty-four days were thus passed without any favourable change in the condition of the patient. Her mother now sent a physician from her native place, who recognized typhus immediately, and gave not the slightest hopes of her recovery. To do something, however, he prescribed arrow root, with a little muriatic acid, one table spoonful to be taken every hour. After the third dose diarrhœa, which had not made its appearance for many days, came on so violently, that several stools mixed with blood were passed involuntarily in the course of one hour. Convulsive movements of single limbs, swelling of the abdomen (*tympanitis*,) and increased tremor were added to this. This induced the physician to withdraw his prescription, and prefer the continuance of the treatment by water, as it had shown itself more advantageous than any other treatment.

Clysters with starch, and well wrung bandages round the body, brought about a cessation of the diarrhœa, and attempts were renewed on the ensuing days to incite, if possible, a favourable crisis, by friction of the whole body, and by envelopments in the wet sheets.

On the evening of the forty-first day, the patient for the first time slept in the envelopment, and at the same time the skin became moist and remained so until towards the morning. The patient felt already somewhat relieved. On the next day and about the same hour, exhalation from the skin returned and continued during the following day. The urine, which had now for several days not been passed involuntarily, had become of a lighter colour, and the patient slept uninterruptedly. On the forty-fourth day the patient for the first time expressed by signs a desire for food. Her voice was scarcely audible; the tongue, lips, and nose, were coated and fissured. Forty days had therefore elapsed,—during which the patient had taken nothing

beyond water and a little mucilage, which had been offered her from time to time.

More favourable symptoms of convalescence appeared from this time. The patient recovered of course slowly; not only had her hair and several nails fallen off, but the skin had totally desquamated during the period of recovery.

In the course of four months she bore the appearance of perfect health, although she yet complained of debility.

A no less dangerous case, in which there was scarcely a chance of recovery, is that of John Borowski, of Jaroslaw, a robust plethoric boy, aged thirteen. He came to the establishment with his mother, who used the water cure. On the morning of the 16th of June he rose with violent headache, giddiness, suffused eyes and ringing in the ears, and complained of a sense of oppression on the stomach, nausea, and weight in the limbs. I prescribed immediately large quantities of water, clysters, and a bandage round the body. Neither the mother nor any other person could persuade the boy, who was by nature obstinate, to obey one of my orders. He was to take at least a sitting-bath, but would not persevere long with this remedy. He took a foot-bath for a few minutes when his headache became insufferable, but without effect. Beyond a bandage round the head he would tolerate nothing. He passed a very restless night, and the next day and night, without properly persevering with any one application. His case became daily worse. On the fourth day the first symptoms of fever showed themselves: hot and dry skin, alternating chills and heats, small thready pulse, increased headache, flushed countenance, peculiar dull appearance of the eyes, yellowish furred tongue, and unquiet sleep. The mother, who had helped to frustrate all serious measures, agreed at last with me in the necessity of earnestly carrying the prescribed treatment into operation, as she had some appre-

hensions for the life of her child. The heat and fever were now somewhat modified by the copious potations, the use of the wet sheets, and cold baths, and the complaints of headache ceased; but periodical delirium and hardness of hearing supervened, and in twenty-four hours eight to ten loose stools were passed. The diarrhœa was checked by lavements with starch. On the ninth day frequent fœtid sweats suddenly came on. Although nothing was done to promote this profuse perspiration, it broke out so frequently that it not only exhausted the patient, but led to total deafness and stupor. In several days we succeeded in checking the colliquative sweats; a viscid fluid however continued to exude from the skin, without any relief to the patient. On the other hand, more serious symptoms appeared, prognosticating an unfavourable issue.

By the thirty-first day the disease had advanced so far that, judging by circumstances, the patient was nearer death than recovery. He lay extended on his back motionless and without uttering a sound; his eyes were half closed, his lips and teeth were covered with sordes, portions of the body were imbued with clammy perspiration, and the odour of the exhalation resembled that of a corpse.

After the patient had lain for six days in this lamentable position, (most dreadful to the mother,) and various suitable kinds of applications had been used without producing the slightest change, I was induced to place the patient, who was already rigid, in an empty bathing-vat, and pour cold water over him. He made a few slight movements indicative of displeasure. Neither during the affusion, nor after the patient was returned to a fresh bed, was any change perceptible: I must, however, observe that there had been for five days no stool, but that an involuntary discharge of a thin dark-brown fluid ensued, immediately after placing him in the empty bath. Although the cold affusion had

produced no favourable change, I had it continued twice daily, and fresh water conveyed into the mouth of the patient from time to time, a proceeding which required great caution, as it readily passed into the trachæa, producing cough, hiccough, and other inconveniences.

I was prepared every morning to find the patient dead, but he remained yet in the same state without any change until the morning of the thirty-second day, when a normal heat was perceptible, and the skin became more soft and moist. In all other respects his state was the same; but in the course of the night he had been better able to swallow the water offered him, and had consequently taken rather more.

The following day and night were passed in like manner. The next morning was rather more propitious: the skin was moderately warm and moist, respiration more free, an alvine evacuation ensued, which seemed to give the patient much relief. Affusion had been remitted for two days, and was subsequently discontinued, since a favourable crisis had in all probability made its appearance, and every interference would have been superfluous. A new favourable symptom presented itself from this time daily; the tongue became more moist, the sordes were removed from the teeth, lips, and nose, and on the thirty-seventh day the patient for the first time asked for food.

Amendment progressed slowly but steadily; the patient slept quietly, but when he was raised upright in bed he was troubled with cough, oppression and pain in the stomach, for some time. These ailments disappeared subsequently, and the bowels became regular, without preceding constipation, which is generally observed. Recovery proceeded favourably without requiring the use of cold water in any particular form, except for the purification of the body. No further auxiliary was necessary to complete the cure

beyond the observation of a careful regimen. I will give a short sketch of another successful and remarkable case.

On the 3d of August I was called upon to visit a boy eight years of age, whose two elder brothers had died shortly before of a nervous fever. He had sickened, according to the parents' account, on the 9th of June, 1836, in the following manner:—After having passed a restless night, he complained in the morning of violent headache, giddiness, when in the erect posture, languor, nausea, &c. A physician, who was called in, considered these symptoms to be the precursors of fever, and was probably correct in his diagnosis. On the following day the malady had taken the same course as in the case of his deceased brothers, and was attended with delirium, impaired hearing, hot and burning skin, loose stools, a rapid decline of his muscular powers, and change of countenance, although the medical man had used every exertion to arrest the progress of the fever.

The spasmodic nervous symptoms had attained their acmé by the fourteenth day, on which a peculiar phenomenon was observed: the delirium and diarrhœa ceased suddenly, the heat of the skin also, but without perceptible exhalation.

From the sixteenth to the fifty-seventh day the disease defied all medical skill and remained without alteration. The history was as follows: after the physician had lost all hopes, the parents came to me for assistance. I found the patient reduced to a living skeleton. His physical strength was so subdued that he could not raise himself in bed, his countenance was altered, and although conscious and sensible of all that passed around him, he had not spoken a single word for six weeks. No sound or even attempt to speak followed the questions put to him. The mouth could only be opened with difficulty for the intro-

duction of liquid food. The teeth and tongue were covered with viscid, fetid sordes. The abdomen was rather inflated, the evacuations had been suppressed for twenty days, and the urine passed away involuntarily every other day.

With little hope of success I commenced the treatment by water. My prescription was the following: the patient to be placed in an empty bathing-vat twice a day, and several buckets of cold water to be thrown over him; after the affusion, to be returned to bed and well covered, a little cold water to be introduced into his mouth every half hour, and two clysters to be given daily. After this treatment had been pursued for two days, or on the sixtieth day of the disease, the skin felt already moist, and the clysters were discontinued, as there had been several loose stools.

On the third and fourth day, towards the evening, a rather copious perspiration, continuing till the morning, ensued. At its cessation affusion was performed, and the patient wrapped in a wet sheet, in which he passed the night, sleeping occasionally. During the day he slept at times, and gave signs of a desire to make water, and take food, which he had not done before.

About the seventh day the action of the skin continued during the night and day, with a slight interval only towards three o'clock in the afternoon, at which time the patient was washed with water at 59° of Fahrenheit, and the wet sheets and affusion were remitted. From this period convalescence became very perceptible, although its progress was but slow. On the tenth day of treatment, and the sixty-eighth day of the disease, the parents heard the first sound of the child's voice, which had been lost for seven weeks: they had, in fact, despaired of ever again hearing it. He regained his speech perfectly, with all his other faculties. On the eighty-first day he made the first attempt to walk, but could only persevere for two minutes;

he was from this time, however, led about for a few minutes daily, until he was able to enjoy the open air.

These few cases clearly prove that the greatest perseverance is necessary on the part of the hydropathist, in fevers where the crisis does not make its appearance at the proper time; and further show how little credit he should place in verbal or written assertions, that these diseases are to be cured in three or four days: they also are a warning to him, never to lose courage and discontinue the water, or perhaps resort to other remedies, which would endanger the life of the patient. No remedial agent can vie with cold water, none will be able to accomplish as much in these diseases, if seasonably and judiciously applied.

Slow (continued) nervous Fever

occurs generally as a sequel of other diseases, or to persons of feeble and delicate constitution.

The course of the disease is of a passive character. The patient lies quietly, and is indifferent to every thing around him; he seldom complains of indisposition or pain, at the most of dullness, loss of appetite, chills and heat. The speech is slow, drawling, and incoherent; the skin dry, or covered with cold perspiration; the eyes are frequently closed, the lips and teeth are covered with dark viscid sordes; the tongue is dry, coated, and of a yellow colour. The treatment must be guided by the fever. With the appearance of the dryness and heat of skin the wet cloths must come into use, and should be renewed every half hour, or every hour, until the heat is moderated; they are to be followed by an ablution with cold water, or a bath of the shortest possible duration. The use of cold water internally must not be neglected, and irregularity in the action of the bowels is to be relieved by cold injections, to which starch may be added where there is violent purging.

Where the fever is not malignant, a repetition of the washing once daily will be sufficient to produce a favourable crisis. After its appearance, ablutions with tepid water are to be performed about twice daily, and thirst is to be allayed by cold water only.

In cases where critical symptoms do not present themselves, and the patient stares vacantly, and is insensible to outward impressions, (stupor,) and his strength gradually declines, affusion with cold water must be performed immediately before enveloping him in the wet sheets. The indication for the envelopment is, the first appearance of dryness and heat of surface. In these cases the wet sheet is not to be renewed, but we should wait a few hours for the appearance of perspiration, which should be allowed to continue as long as it does not inconvenience the patient, or weaken him. If one or more of these affusions have conveyed a shock to the whole body, and a favourable sweat and change in the urine ensue, this proceeding is to be discontinued, and it will suffice for the future to wash the patient from time to time with tepid water, and give him occasionally cold water to drink, or whenever he demands it.

It sometimes happens, in the commencement of these fevers, that the skin is covered with clammy perspiration, which is any thing but a relief to the patient; it will then be necessary to wash him several times in the course of the day and night with cold water, or to rub him repeatedly with a cloth dipped into cold water, until these morbid debilitating sweats cease. If with this treatment the fever at the same time disappear, a judicious regimen only will become necessary; if, on the other hand, it return after the cessation of these sweats, the wet sheets are indicated to be renewed according to the violence of the fever. It is of course understood, that after each application, where the

heat is abated, an ablution with cold water, or friction with a wet towel, must be performed.

At the close of these fevers, a judicious regimen is an essential consideration. Appetite should be sparingly satisfied, and with light food; the transition to the ordinary diet but gradual. The drink should be, even during convalescence, nothing but cold water. The sick-chamber must be dry, and fresh air should be admitted, especially during the time the patient is in the envelopment. Every thing, moreover, is to be avoided which might excite the patient, bodily or mentally.

Malignant, infectious nervous Fever.

The Typhoid fever prevalent in camps never came under my treatment; I must, therefore, refer those who desire instruction on this form of Typhus to the excellent work of Dr. Fabrizius, entitled, "*Das Ganze der Heilkunst mit kaltem Wasser; Leipzig, by Carl Geibel,*" where he will find a full account of the methods of treatment adopted by Currie, Wright, Pringle, Hahn, Brandeis, and Mylius; and of the extraordinary success attending the use of cold water in these devastating diseases in the practice of these distinguished men.

Putrid Fever

appears generally in complication with other diseases, frequently with nervous fever, with which it has much in common. It is characterized by a tendency to decomposition and putrefaction of all the fluids. The first attack is denoted by considerable rigor, followed by heat, which is more intense and burning in this fever than in any other. The increase of temperature is even perceptible to the touch. In the course of the disease slight delirium is added to the heat; the pulse is always small and compressible;

the taste faint, bitter, or putrid. These symptoms are followed by a tendency to sweating, offensive stools and urine, with great debility, depression, predisposition to fainting, stupor. The colour of the urine varies in tint, from dark red to brown or pale blue, and frequently contains brick-dust deposits. Perspiration, the breath, and all the evacuations, assume a repulsive odour. The teeth are covered by a putrid viscid mucus, which is discharged also from the nose and eyes. When the disease has reached its climax, spots of various colour appear on different parts of the body (a consequence of decomposition of the blood,) on the chest, the inner part of the arms and thighs; discharges of blood ensue from the nose, anus, urinary organs, and, in women, from the vagina. There is tremor of the limbs, respiration is loud and rattling, the evacuations take place involuntarily, the abdomen and single portions of the skin swell; syncope, paralysis, and other signs of total loss of power, followed by the ordinary precursory symptoms of death, ensue; or, if the disease now take a favourable turn, recovery takes place but slowly. Paralysis, dropsy, deafness or blindness, &c., may remain for life as sequels of this disease. During the disease, which usually lasts from fourteen to twenty-one days, the patients show a decided aversion to warm, or animal substances, but have a desire for acidulous food and drink; and, indeed, acidulated foods, preserved fruit, &c., they may be permitted to take. Cleanliness in every respect is the first condition; fresh air must be frequently admitted into the room, the temperature of which should be rather cool than warm; we may also sprinkle water on the floor of the apartment, or place a large vessel containing water in the room, or hang wet cloths round the walls.

Cold water must be used internally and externally, without intermission by day and night, if we wish to succeed

in saving one of these patients who are passing during life into putrefaction. As long as the febrile heat continues, the wet sheets, changed frequently, and ablutions of the whole body with cold water, are to be repeated until it is modified. The internal use of cold water must be insisted on, and the mouth frequently washed. If, owing to the debility of the patient, the cold water cannot be introduced by any other method, repeated changes of wet cloths are to be applied to the mouth. The employment of cold clysters is by no means to be neglected; in the severer forms of the disease only, where the diarrhœa is troublesome, they may be mixed with starch.

If the patient's powers decline under this treatment, and the fever continue to rage, the skin remaining hot and dry, cold affusion and plunging baths will be very advantageous. These powerful remedies must on no account be abused or continued beyond the time at which their object is accomplished, of effecting an alteration or cessation of the morbid process, when the wet sheets will again suffice. The repetition of the latter must be directed by the degree of fever: if this be diminished, or cease, ablutions of the whole body will be sufficient, provided the internal use of cold water be not neglected. Violent headach is to be treated by wet bandages, changed frequently.

All other modifications of this fever are to be treated or removed in the same manner as similar complications of nervous fevers.

In the after-treatment, we should not trouble the patient much with the use of cold water internally or externally, but leave him at rest, and direct our attention to regimen, to prevent the morbid sequels, which prove often dangerous, in some cases even fatal. Fresh air and great cleanliness are indispensable during the course of the disease and of convalescence; the latter applies to the room, the linen, and

in fact to every thing that surrounds the patient. Attention should be paid to the diet at the termination of the disease; and I have already mentioned that it may be acidulous, but if such food produce diarrhœa it must of course be avoided. I cannot sufficiently inculcate the rule, that the patient should take but little food at a time, though appetite increase.

INFLAMMATIONS.

On Inflammations in general.

Inflammations are very numerous. They appear with or without fever, to which they bear great resemblance, and are the concomitants of many diseases. The characteristics of that morbid process to which we give the name of inflammation, are not only perceptible in local symptoms, but show themselves, like those of fever, in the whole animal economy, by affections of the nervous and vascular systems. The functions of the organ inflamed are always more or less impaired, and the part generally appears swollen, and more dense and firm, its colour is of a bright red, its temperature increased; in the majority of cases there is pain; in some this symptom is entirely wanting.

Inflammations occur at every period of life, but the young are more inclined to them, as a general rule, than persons of a more advanced age. The causes are various, as sudden changes of temperature, the abuse of acid, highly seasoned or very nutritious food, and spirituous liquors; immoderate corporeal exertion, violent mental emotions, suppressed eruptions of the skin. Amongst the external or local causes are, all excessive kinds of irritation, mechanical or chemical.

They sometimes originate without any premonitory symptoms; at other times, the precursors appear a long time before the attack. Inflammation varies in degree, and is, especially where parts of a low degree of vitality are attacked, so slight, that the constitutional symptoms are entirely overlooked. In most cases, a general fever shows itself with the first appearance of inflammation. The violence of the fever will depend partly on the constitution of the body, partly on that of the organ which is attacked. Inflammation of vital organs, *e. g.* of the brain and lungs, are always fraught with more danger than those of less important parts.

The terminations of this disease are very various; either a favourable crisis, and with it recovery ensues, or morbid sequels, even death, may follow.

Diet must be rigidly observed, and should consist of food which is not very nutritious, and cold water solely as a beverage.

Inflammation of the Brain.

The forms of this dangerous disease are very various: some of them may prove fatal soon after their appearance; others, the chronic forms, at a later stage. As we distinguish several varieties of inflammation of the brain, it is manifest that their symptoms must vary also. Many of these, however, not being of importance to the hydropathist, we shall only mention those symptoms by which he may distinguish whether the brain itself, or, as is more frequently the case, its membranes, are affected. In answer to our questions, the patients either do not complain at all, or of slight giddiness only; but they cannot keep their head erect. Heat is confined to one spot in the head, to the seat of the disease. This state is always accompanied by fever: the pulse is soft, the tongue dry; there is

mostly constipation, and retention of urine, which, if passed, is found to be of a dark red colour. This inflammation is frequently complicated with apoplexy, and lasts in acute cases from two to four days, seldom longer.

The symptoms of inflammation of the substance of the brain assume a different form, the difference varying again with the seat of the disease. The general symptoms are: beating of the arteries in the head and neck, affection of the head, and heat with redness and swelling of the face, hardness of hearing, intolerance of light and a contracted pupil. The patient is noisy, screams, and evinces enormous muscular power; he has a hard and wiry pulse, a hot dry skin; there is vomiting, constipation, and the urine is of a dark red colour. In the further course of the disease, the patients not infrequently become partially or totally blind and deaf; there is a peculiar tremor and convulsive contraction of the limbs indicative of the severity of the disease, and of congestion of the vessels of the brain.

Inflammation of the membranes of the brain is more frequent in old people, whereas inflammation of the substance is peculiar to youth. The primary causes of the diseases are various, as a predisposition to the attack, or a premature development of the brain. The exciting causes are: injuries of the head by pressure or a blow, sudden changes from heat to cold, exposure of the head to the powerful rays of the sun, indulgence in spirituous liquors, fatiguing mental occupation, suppressed menstruation, erysipelas of the face, rheumatic and gouty attacks, suppressed cuticular eruptions.

To accomplish the cure of these most dangerous cases, the treatment will require the greatest attention and activity on the part of the hydropathist and the nurse. The hair should be immediately shaven from the spot affected, and applications of cold water laid over the whole head,

and frequently changed. They should never attain a degree of heat equal to 66° of Fahrenheit. The temperature of the water used should, if possible, be under 46° Fahrenheit, and never above 50° of Fahrenheit. In summer this temperature can only be obtained by adding ice to the water. It is advisable to place several large napkins in cold water in readiness to be applied to the head, that the applications may follow each other in rapid succession. The time for each renewal of the napkin depends on the degree of heat; as a rule, it should be every five, or at the utmost every eight minutes. As long as the inflammation lasts, the bandage should never become warm, for success rests chiefly on this point. The slightest degree of heat is capable of causing fatal extravasation of blood in the inflamed organ; this caution, therefore, cannot be too urgently insisted on.

If the struggles or violent muscular motions of the patient prevent us from applying the cloths, or adapting them closely to his head, we must meet this opposition and resistance in the best manner we can, and should not allow it to cause an interruption of our proceedings. We must, moreover, urge the patient to drink cold water frequently; with every second or third change of the cloths (umschläge) water must be administered to him, and indeed by day and night; nor should vomiting even deter us from persevering. As necessary are cold water lavements; and although they are not to be repeated as frequently as the wet cloths, we must use them every second or third hour to keep the bowels regular.

If the first twenty-four hours of this acute disease pass without amendment to the patient, notwithstanding our exertions, we have little prospect of saving him.

The treatment prescribed must, however, be continued without hesitation, until symptoms either of amendment or

of death appear. However faint our hopes of a favourable termination under these circumstances, when all these measures, conscientiously pursued, have failed, we must, nevertheless, use our utmost exertions to save the patient. If within twenty-four hours no favourable symptom appear, we should pour absolutely cold water over the whole body of the patient, and wrap him immediately afterwards in a well wrung sheet and several blankets, endeavouring in this manner to produce perspiration. The patient must lie with his head considerably raised; the wet napkins and the potations must be continued as above ordered. If the patient feel relief in the envelopment, especially if perspiration ensue, he should be left in it as long as this condition lasts, even if it were for half a day or longer; not before perspiration ceases should we wash him with tepid water. If the inflammatory and febrile attacks have abated in violence, and a crisis with refreshing sleep, sedimental urine, perspiration or bleeding from the nose ensue, we must change the bandages less frequently, and promote and prolong perspiration, by covering the body more warmly. Finally, we must persevere with the preceding treatment, and keep the sick chamber cool.

After cold derivative half-baths, sitting, and foot-baths, I have never observed relief to follow, but frequently on the contrary, exacerbations. The only derivative that I have seen used with advantage in hydropathic practice, is the warm foot-bath of at least 100° of Fahrenheit, which may be often repeated if beneficial. During the first stage of the disease, we should endeavour to keep the patient in the sitting posture, air the room frequently, and see that it be kept quiet, and that the light be subdued. If there be total retention of urine, a catheter must be passed.

Patients attacked with delirium tremens require different treatment from that above mentioned, especially where

they rave. In this case we must seek to allay the violent vascular and nervous excitement by cold effusion, not only of the head but of the whole body. This process must be continued until the patient is composed, when we must wrap him in a wet sheet, apply cold bandages to his head (which should be kept raised,) and give him cold water to drink.

As long as we can keep the patient in this position composed, no other treatment will be necessary beyond changing the bandages frequently; but as soon as an exacerbation, or a renewal of restlessness takes place, the former proceeding must be repeated, and clysters of cold water administered. The repetition of the applications to the head must be guided by the heat of the body; if this abate, the change should be less frequent: the same applies to cold affusion. As soon as the patient is more composed, the wet sheets will suffice to allay the slight degree of nervous excitement yet remaining.

Our attention should be directed, as soon as excitement and congestion are diminished, to the production of critical perspiration, which may be easily effected by leaving the patient for a longer period in the wet envelopment. It more frequently happens that these perspirations come on spontaneously; they are never to be interrupted, especially if they relieve the patient; it is therefore advisable never to resort to ablution with cold water until the exhalation from the skin has ceased.

During convalescence we should keep the bowels regular by clysters, order copious potations of cold water, and allow the patient to enjoy the open air as soon as possible. As long as exercise out of doors is not admissible, the room must at least be kept very airy.

A judicious use of the water treatment will in the latter form of the disease ensure a favourable termination in most cases, without the aid of any other remedy. This assertion

I can corroborate by experience made in many cases entrusted to my care.

Inflammation of the Eye.

There are a number of inflammatory states of the eye and its appendages, which should not be enumerated separately nor treated locally alone; for in the treatment we have not only to take into consideration the morbid state of the organ itself, but the condition of the body generally. This is the case, *e. g.*, in rheumatic, arthritic, scrofulous and syphilitic inflammation of the eye, where the chief attention must be directed to the primary disease, and the treatment at the same time suited to it. It is not my intention to treat of inflammations of the eye separately; they will be classed with those diseases of which they are symptomatic. I shall therefore now only mention a few which at times appear isolated, and not as complications with other diseases. In those inflammations of the eye, caused by external agents, as dust, smoke, intense light, pressure, a blow, or foreign bodies, or wounds, our first consideration must be to remove the exciting cause, if this be still present, and then to recommend the external and internal use of water, in the form best adapted to the case. The patient's room should be cleanly, neither too warm nor too light; his food easy of digestion. He should abstain from all spirituous liquors, and wash the eyes frequently during the day, as also the face, throat, and neck, with very cold water. He should, moreover, apply well moistened bandages, consisting of old clean linen folded several times, to the eyes, and renew the applications as soon as they become warm. Eye baths of water at a temperature of 66° to 73° of Fahrenheit, four or five times a day, during three or six minutes, will be found of great advantage. A large basin is best adapted for the bath. Copious potations of cold water, and clys-

ters where there is constipation, cannot be sufficiently recommended. When the inflammation is relieved, it will suffice to wash the eyes frequently, to drink water often, and in summer to remain in the open air, and, if possible, in green fields.

The inflammation attacking the eyes of new-born infants, (*ophthalmia neonatorum*) which appears generally a few days after birth, shows itself with slight redness of the eye-lids, and intolerance of light. The redness lasts usually but a short time, swelling of the eye-lids longer, and is accompanied by the secretion of purulent matter, which covers the eye-lids during the night, gluing them together and rendering it difficult to open them.

This inflammation generally attacks both eyes, and is very destructive to the organ, causing at times *staphyloma*, protrusion of the iris (when matter not only exudes from between the lids, but at times also blood,) and gives rise to impaired vision (*organic lesions*,) &c.

The causes of this inflammation are various: the more prominent are, intense light, to which the eye may have been exposed soon after birth, cold, draughts, damp residences, smoke, or impure water used in washing. Our first care must be to remove the exciting cause, and to wipe the eyes frequently with a clean white linen rag, dipped in clean tepid water. In severer cases, where this proceeding will not suffice, we must lay pledgets of linen dipped into tepid water (which has stood,) and gently wrung out, on the eyes, and continue them with a due observation of cleanliness, until the inflammation is checked. If this disease be attended with complications we should treat the morbid symptoms accordingly: where there is constipation, by clysters; where there is soreness of the genital parts, by washing them frequently with cold water, or applying a wet pledget to them. With due consideration of all

adventitious circumstances, and a strict adherence to cleanliness, these inflammations will require no further treatment.

Inflammations of the Throat.

We distinguish many varieties of inflammation of the throat, but I will only mention the more common forms, and describe those in particular requiring a variation in the mode of treatment. I will begin with

Croup.

This inflammation of the larynx and trachea, is distinguished from the common inflammation of these parts by a predisposition to the formation of false membranes lining the trachea and larynx, which cause difficulty of breathing, a sensation of tightness in the throat, and, if not relieved, all the symptoms of suffocation.

This very dangerous disease is confined to a definite period of infancy, beginning at the second and terminating with the sixth or eighth year. After this period the disease seldom makes its appearance. The attack comes on generally in spring, or late in autumn, and may be referred to a peculiar state of the atmosphere during these seasons. Plethoric children are most endangered by this disease, as its course is more rapid in these individuals. Three stages may be distinguished in the disease: the first stage, that of the premonitory symptoms, is ushered in by a slight catarrh; the children become at the same time rather hoarse, fretful, and languid, especially towards the evening: to this is added a dry, abrupt, hollow, barking cough, accompanied by a slight degree of pain, by irritation, and a sensation of burning in the trachea. Respiration is anxious, and the throat is stretched forward; the pulse is hard and wiry, and the face flushed. Sometimes this stage is wanting,

and the disease presents itself suddenly, and runs its course with increasing violence and rapidity. The children are awakened shortly before midnight by a whistling stridulous cough, which becomes with every attack more hollow and barking, and is accompanied by a considerable degree of fever. The children then complain, if sufficiently advanced in age, of a burning sensation in the throat; the voice becomes more hoarse, respiration more difficult and wheezing, and the throat is stretched forward. The fever is augmented, the skin becomes hot, the pulse quicker, and thus the disease passes into its third stage. The children, except during the coughing fits, lie on their back with the head inclined backwards. Speech becomes very difficult, hurried, and anxious, the pulse small and weak, and the eye prominent. If a coughing fit supervene, the anxiety is suddenly increased, and the patient grasps convulsively around him, particularly at his throat and mouth, until the attack has passed, when he falls back exhausted on the bed. The course of the disease is rapid, terminating often in twenty-four hours, and enduring seldom more than from six to eight days. If it end in recovery, the false membrane (if formed) will be ejected by cough or attempts at vomiting. At times the urine will be loaded with sediment.

The voice remains altered for some time, and relapse is yet to be dreaded. If this frightful disease terminate in death, it will be by compression of the brain (congestion,) by suffocation, or total exhaustion.

On a correct diagnosis at the very commencement of the disease, the success of our treatment of croup will depend, as it is a disease demanding great activity. As soon as we see symptoms indicative of this disease, we must wrap the patient without delay in a well wrung wet sheet, and apply a well wrung bandage (umschlag) round his throat, and thus endeavour to produce perspiration. With the ap-

pearance of the exhalation from the skin, the dangerous symptoms will generally be relieved, the cough becomes loose, the voice alters, and respiration becomes more free.

Whilst the patient is in the wet envelopment (sheet and blanket) water drinking is not essential; but if he have thirst, it may be allayed with chilled water. If, with the appearance of perspiration, amendment ensue, it will not be necessary to change the applications to the throat, nor the sheets; we should rather allow the patient to remain at least eight to ten hours in moderate perspiration, which we may regulate by loosening or tightening the envelopment. The temperature of the apartment should be moderate. An ablution of cold water at 66° to 73° Fahrenheit should follow this proceeding, whereupon the patient is to be returned to bed, and lightly covered, to keep up a slight action of the skin. If the patients object to lie in bed, we may allow them to dress and keep the room; but they must be very careful not to take cold, and especially to keep the feet warm.

It is advisable in every case to wrap the patient again in the wet sheets in the evening, even when he has passed the day favourably, and to renew the applications to the throat; thus to await the cessation of perspiration for a few hours, which is to be followed by an ablution. If the next day be also passed favourably, attended only by a few catarrhal attacks, the wet sheets and ablution may be again used in the evening. Finally, we may gradually, but cautiously, allow the patients to enjoy the open air when the weather is fine, and to return to their former habits.

Exacerbations occur most frequently towards midnight; at this time, therefore, the patient will require our greatest attention. The use of the wet sheets in this case must by no means be neglected: the same applies to the applications round the throat, which are to be frequently repeated

where an amendment does not ensue. We must by no means be sparing of wet envelopments or bandages round the throat, where the disease proves obstinate.

This disease is sometimes of a very insidious character. The patients feel quite well after the first envelopment, are inclined to play, and eat with appetite, circumstances leading to the belief that all danger is passed. We must not, however, be deceived by these favourable appearances, but observe attentively, whether a suspicious sibilation attend the breathing or cough; whether the skin be hot, and the countenance bloated. If these, apparently trivial, symptoms be present, no time should be lost; but the patient must be wrapped without delay in the wet sheet, and perspiration must be encouraged. If, with moderate perspiration, the patient feel comfortable and composed, or fall asleep, we should leave him in this position for several hours, or until he wakes, before we proceed to ablution.

It is always advisable to put the child to bed after the ablution, and to cover him well, in anticipation of a return of that suspicious sound which may attend his breathing or cough. In cases where these attacks do not show themselves, we should continue the use of the envelopment every twenty-four hours for two or three days as before; but the patient need not remain so long in the envelopment. The patient must wear, in addition, well wrung bandages continually.

At times, the peculiar croupy character of the cough continues even whilst the patient is enveloped, or after the appearance of perspiration, in which case we must excite vomiting by passing the finger into the throat, or better, by tickling the fauces with a feather. By giving the patient tepid water to drink beforehand, success will be more certain. Where vomiting produces no alleviation, as will be the case unless membraneous deposits are discharged, the

wet sheets must again be resorted to, and continued for a longer time. Wet applications are also to be applied to the throat, and to be frequently changed whilst the patient is in the envelopment. If, in the course of a few hours, the stridulous sound be altered, the applications should no longer be changed, but the patient must remain for several hours yet in perspiration, and not until that time may an ablution with cold water be performed.

Under the circumstances we have been describing, the patient should again be put to bed, that we may carefully observe his respiration, for the envelopment and bandages will become again necessary if the slightest suspicious symptom appear; and this treatment must be persevered in, until these doubtful symptoms are again alleviated.

If the wet sheets and repeated bandages effect no alteration within the space of eight to ten hours, and the cough be unchanged, or become more hoarse and hissing, and the sound of the respiration resemble sawing—if, moreover, the fever increase, and the skin become dry and hot—a frequent change of the bandages and sheets will be required, until the skin is rendered softer and more prone to exhalation. If, by this treatment, we do not accomplish our object, two to three plunges in cold water may be of the most beneficial consequence to the patient; we should also pour cold water at the same time over his neck, and must convey him back to his bed, and cover him well up.

Should the preceding treatment fail of affording relief, we may indeed repeat the latter process after several hours; but resistance of so much treatment is a very bad sign, and justifies the most unfavourable prognosis. Hopeless as the prospect may be, we must nevertheless persevere in our endeavours to save the patient. We must observe, that in the third stage of the disease, the internal and external use of very cold water is no longer advisable, the less so if the

hands and feet appear very cold and even blue; the patient should rather be kept warm, even in a state of moderate exhalation, and should take tepid water for his beverage. Evacuations are to be promoted by injections, and where there is vomiting, this is to be encouraged by copious doses of water, which must have stood for a long time.

Where croup has arrived at its third stage, we may expect as little relief from hydropathic treatment as from any other practice; for when the disease has attained this height, the patients may be considered as lost. The exceptions to this rule are but very few.

Encouraged by the success of Dr. Harder, of Petersburgh, and of several cases published in modern times, I have undertaken several cases which had been treated medically, or even by water, and had passed into the last stage; but I never succeeded in saving even one patient.

In the year 1836 I undertook the treatment of the son of a peasant at B., a robust boy, who was already in the last stage of croup. I found him lying on his back, with his head inclined backwards; his respiration was accompanied by a loud rattling sound, his countenance pale, the eyes prominent, the pulse small and thready. He had lost his speech, and had scratched and torn his throat and face in the agony of approaching suffocation. I found him altogether in a very lamentable state, such as we observe in these cases shortly before death. The physician had given him over, and I could not offer the parents more hope than my predecessor. I was, however, urgently entreated to make an attempt with cold water. Unwillingly I complied with the entreaties of the parents, although I had not the slightest prospect of saving the patient, and well knew that in these desperate cases, where every endeavour is fruitless, the death is nevertheless ascribed to the water-cure, without further consideration.

Water was immediately procured and preparations made for a cold affusion, which was performed at nine o'clock, A. M. Immediately after the affusion, which was directed to the neck chiefly, I had the patient wrapped in a wet sheet, and bandages applied to his throat. Nausea and cough, followed by vomiting, were brought on immediately; a quantity of mucus, and a small portion of false membrane were ejected, whereupon the patient breathed more freely and fell asleep. Towards the evening slight difficulty of breathing again came on, affusion and the envelopment were again resorted to. About an hour after the latter, perspiration ensued, accompanied by considerable alleviation of the symptoms, although not attended with vomiting or the ejection of adventitious depositions.

The boy passed the following day more comfortably; he breathed with more freedom, and expressed a desire for food. The second and third day terminated, and the case still proceeded favourably. The friends of the boy began to look upon him as saved; to me, however, his respiration was yet suspicious, and I made this observation to his parents, who paid but little attention to it, as the boy was otherwise well.

My residence being three or four miles distant, I left the order that the boy should be wrapped twice daily in a wet sheet, and washed on the cessation of perspiration with tepid water; that bandages to the throat should be continued, and the patient drink cold water plentifully.

On the morning of the seventh day a messenger arrived, entreating me to come as soon as possible to the boy, who had again suffered an attack in the course of the night. I found him in as bad a condition as before; our former exertions were therefore frustrated, and little was to be expected from all further attempts, as the disease made rapid progress: at half-past twelve on the same night, indeed,

his sufferings terminated in death. According to the information which I was able to collect, he had taken cold in running about barefooted in the garden on the preceding day, which had been both wet and cold. Attention, moreover, had probably not been paid to his covering in bed. After eleven o'clock at night, his mother had heard him cough with the former barking sound: she had risen from her bed and covered him carefully. The cough had left him no peace; the poor boy had tossed himself restlessly in bed, and difficulty of breathing was superadded to the cough. When the parents observed the very evident retrogression, they proceeded to cold affusion, and placed the boy in the wet envelopment in which I found him in the morning. Probable as it is that the patient had caught a cold, I will not contend that he died in consequence of it; for, on the fourth day, when I saw him for the last time, his respiration was still suspicious to me; although, according to the parents' account, it had been quite natural on the fifth and sixth days.

Be that as it may, I assert that we shall, with the best treatment with cold water, but rarely succeed in saving patients in the third stage of this disease. We may, perhaps, expect the most in these extreme cases from affusion repeatedly applied to the throat. Nature will sometimes deviate from her usual course, and the disease take a favourable turn during our last desperate efforts.

The case related by Dr. Harder, of Petersburgh, is an example in point.

Inflammation of the Parotid Glands.

This inflammation, which is also called the "Mumps," originates generally in colds. The disease shows itself in visible and tangible swelling of the parotid gland, extending sometimes to all the salivary glands, when we specify it as

inflammation of the salivary glands. *Parotitis* occurs generally in damp rainy weather, as an endemic at times, appearing and disappearing rapidly, and is frequently followed by morbid sequels. The precursory symptoms are: slight catarrhal attacks, accompanied by a swelling of one or both parotid glands, with dull pain, immobility of the lower jaw, and fever. The skin is externally scarcely reddened, but its temperature is perceptibly augmented. In severe cases suppuration or induration of the glands sometimes ensues. This disease is easily distinguished; we can therefore oppose it with activity at its first appearance. As soon as we perceive a swelling of this nature about the neck, we should wash the glands during four to six minutes with water (absolutely cold,) apply immediately afterwards a well wrung bandage to them; have the patient conveyed to bed, and well covered, or wrapt even in a blanket, in which he must remain until perspiration ensues. At this period of our treatment the bandage round the throat is to be renewed, that is to say, it must be dipped into water, well wrung, and again applied. We must now give the patient, at intervals, as much water as is requisite to prevent a cessation of sweating. When the patient has passed about three hours in a state of moderate perspiration, an ablution with cold water must be performed. After dressing, a bandage should again be applied to his throat; he should drink water moderately, and take exercise in the open air.

On the following day perspiration will not be essential, but the more necessary are frequent ablutions of the neck and chest, and continuation of the bandages. This treatment combined with an antiphlogistic regimen, scanty diet, and rather copious use of cold water internally, will mostly succeed in bringing the disease in a few days to a favourable termination.

Generally speaking, cold water is not resorted to until the swelling and inflammation have so far progressed that even hydropathic treatment cannot arrest the suppuration which has already commenced.

Even where suppuration is no longer to be averted, this treatment will prove more advantageous than any other.

In lieu of the warm poultices in general use in these cases, we must apply well wrung wet applications, which are not to be removed before they have become dry, and have the mouth frequently rinsed with water which has stood for some time. Both these remedies are to be continued until suppuration and the discharge of matter have terminated. Finally, after the suppurative stage, the patient should wash his neck and chest frequently during the day with cold water, both to strengthen the parts and to guard against relapse, which is of frequent occurrence in this disease.

There are some obstinate cases where the high degree of swelling and inflammation, the difficulty of respiration, and fever, render the application of wet sheets necessary in addition to the use of bandages and water as a gargle. The change of the wet sheets must be guided by the fever and heat of the skin. Sometimes it will be sufficient to renew them once every half hour, eight to ten times before we can modify the fever; in obstinate cases, on the other hand, the bandages must be repeated twenty times or more, to produce exhalation from the skin and afford relief to the patient.

It must depend on the sensations of the patient whether the wet sheets should be used daily, and how long they are to be continued. If the fever be allayed by a few envelopments, and the state of the patient be more comfortable, they need not be repeated; but the use of gargles and bandages is to be persevered with until suppuration has

terminated, and all the pus is discharged, when cold ablutions of the neck and chest and frequent gargles of the mouth with fresh water, will be required.

The two last-named remedies are to be continued even after recovery; they cannot be too earnestly recommended to all persons subject to these complaints, as they not only prevent relapse, but frequently remove the predisposition to these diseases,—a beneficial result, which will be rendered the more certain by judicious regimen. Besides the inflammation of the throat which we have treated of, there are a number of inflammatory complaints, to which this part of the body is subject, denominated mostly according to the seat of the disease, as the inflammation does not always extend to the mucous membrane of the whole throat. These diseases may all be removed by the simple treatment above mentioned, provided it be brought into operation at the right time, and with proper judgment. The very cold bandages, those namely which are to be frequently changed, and for which water is used of a temperature not exceeding 41° to 47° Fahrenheit, should only be resorted to in severe cases, when mortification is to be feared, and then they should only be continued as long as the attacks last. When the dangerous symptoms have disappeared, we must return to the former proceeding.

Derivative foot or sitting baths I have never found to fulfil their object, and never propose them; as an exception they might perhaps be useful in some few cases, for which they are adapted. The reader will find information on the subject of arthritic, scrofulous and syphilitic inflammation of the throat, under the head of these specific diseases.

Inflammation of the Lungs.

This inflammation is preceded by premonitory symptoms of a short duration, or these may be entirely wanting. It

commences for the most part suddenly, with a violent rigor, followed by heat. To these symptoms are soon added, pain in the chest, which may be confined to one side, or attacks both sides at the same time, shortness of breath, cough with or without (*hæmoptisis*) spitting of blood, restlessness, palpitation of the heart, and determination to the head. The pulse is weak, small, even remitting, the skin hot and dry, the hands and feet, however, are often cold, the bowels are inconstant, the urine is scanty, cloudy, or of a pale yellow colour. The causes favouring or producing this disease are: a peculiar state of the weather, prevailing north-easterly winds, augmented activity of the lungs, by violent running, suppressed natural or habitual discharges of blood from the nose, vagina (menstruation,) &c.; loud continued talking, singing, inspiration of impure air charged with corrosive vapours, injuries of the lungs, and inflammation of adjacent parts, &c.

Inflammation of the lungs may be classed among the most dangerous diseases. To ensure success in the treatment of all serious affections, correct diagnosis, caution and experience on the part of the medical man, to whatever system he may adhere, are essential conditions. It is therefore by no means advisable for the unlearned in medicine to attempt the treatment of this disease, least of all hydropathically. The authors of most of the modern books on hydropathy, plainly show, by the absurd and improper treatment they propose, that they have never treated these diseases themselves, nor even ever seen them treated: with how much less safety then would he who is still less acquainted with hydropathy undertake the case! In reading these works this question suggests itself to the competent judge: "How can long-continued sitting-baths simply and alone put an end to active inflammation of the lungs within the space of twenty to thirty hours, or in a

much shorter period—six to eight hours?" The same applies to those foot and half baths, in which the patient is to remain until his teeth chatter. Are not these very dangerous prescriptions? Treatment is recommended which, instead of leading to a cure, must place the disease beyond the reach of art, or render it even fatal, especially where the first invaluable period, in which assis ance might have been afforded, is to be trifled away in rubbing the hands and feet of the patient. Tales, by which we are informed that inflammations of the lungs (*pneumonia*) may be cured hydropathically in six to eight, for the utmost in twenty hours; nervous fevers, in the same short period, with certainty and without danger, have not originated in the heads of those authors; but it is probable that these miraculous tales emanated from Gräfenberg, where there is no lack of them. It is the common table-talk at the establishment, that A. was yesterday attacked with nervous fever; B. in the course of the night with *pneumonia*; that both had now perfectly recovered, and to the great delight of all present could again take a walk in the morning! We are entertained with like miracles of children cured of scarlet fever. On the third day of the disease, we are told, let the weather be as it may, they can walk about in the open air with their wet bandages, and may be regarded as perfectly cured. Such absurdities may be tolerated from persons who have not the most remote idea of the characters and course of important diseases, and we can be lenient with them on that account; but these stories sound wonderful indeed in the mouth of a physician, who thus exposes the limited state of his scientific education.

That Priessnitz may have given rise to these narrations I do not doubt;—but far from imputing dishonourable motives to him, I believe that these errors are caused by his total unacquaintance with scientific nomenclature. Be the

cause of confusion of terms what it may, Priessnitz well knows how to treat disease, let it be *delirium tremens*, or any other species of vascular excitement, with which he may have to contend. True inflammation of the lungs has occurred but extremely rarely in Freywaldau and Gräfenberg since hydropathy has flourished there, although several thousands of patients have sought relief from chronic diseases. Quite as isolated as the cases, are also the observations and the experience made in these diseases; it is impossible therefore for me to communicate a mode of treatment based upon practice, and adapted to all cases. Thus much, however, I can say, for the satisfaction of myself and of all the friends of hydropathy, that every case of *pneumonia* which occurred at either establishment, was successfully treated by cold water only. Some successful cures in point were communicated in the year 1839, in "Der Wasserfreund."

At the commencement of the disease, the patient should be wrapped without delay in a damp well wrung sheet, a wet bandage (less wrung out) should be applied to his chest, and he should be laid in bed, with his head raised; water must be administered to him from time to time of 64° to 66° Fahrenheit. This temperature is best obtained by placing a bottle containing water, which must be well closed, into hot water.

The fever, if already present, the general heat of the body, the dryness and heat of the skin, more especially, are the indications for a repetition and change of sheets: the necessity for a renewal of the envelopment presents itself frequently in half an hour or an hour. This treatment must be pursued until the skin is softer, and more prone to exhalation. When the bandage on the chest becomes warm more quickly than the wet sheets, it may be carefully withdrawn, without loosening the envelopment

entirely, wetted again, and returned in the same cautious manner. When by this treatment we have succeeded in producing perspiration, we must quietly await its cessation, place the patient in the most convenient position, and unloosen the envelopment where it is too close, because, from this period, the sheets are no longer to be changed. The bandages on the chest only must be renewed frequently, but with the utmost caution, that we may not interfere with, or much less check, perspiration. If we have neglected to furnish the patient with a urinal at the time of enveloping him, it may be pushed up from the feet, until the patient can himself reach it.

The time the patient should remain in the first envelopment must depend entirely on his sensations. If with the appearance of perspiration he feel greatly relieved, he must not be removed for many hours; for we shall not be successful unless we await the cessation of the first perspiration. I allowed a plethoric florid girl, aged nineteen, in whose case the disease ran very high, to remain thirty hours in the first perspiration, before she was washed with water at 70° Fahrenheit, simply because perspiration continued to afford her relief. An ablution with tepid water must now be performed. Even if the patient, from any cause or desire, must be soon removed from the envelopment, or before perspiration has ceased, the ablution must never be neglected. In these cases the greatest care must be taken to re-establish perspiration, or at least, to moderate diaphoresis.

If the patient feel tolerably well after sweating for three days copiously, we may allow him to pass several hours in the course of the day without exhalation from the skin; he must, however, still drink nothing but water, which has stood, and should take a little gruel only.

The bandages must be continued; they should be well

wrung, and well adapted to the part, and should not be changed before they are perfectly dry. Until recovery is complete, the wet sheet must be persevered with every morning, and the patient must remain in it and perspire for one, two, or three hours, as his sensations may indicate. The bowels should be kept regular by clysters, especially on the first days after sickening: great attention should be paid to this point.

During the first three days the patients are to be washed after sweating in the sheet and blanket, and immediately afterwards to be conveyed to bed, and kept well covered until the next envelopment, that they may moderately perspire whilst in bed. The thoracic bandages, which should be well wrung and closely applied, must be continued uninterruptedly. Should the patient not perspire in this position, nor feel much relief, it is advisable to wrap him as soon as possible in the wet sheet, and to allow him to sweat for some time moderately.

Fever is, in some cases, very troublesome to patients in the evening: we should endeavour to allay this disturbance immediately by the use of wet sheets, and thus stimulate the skin again to exhalation.

Critical discharges of urine are, at times, sufficiently copious to answer the purpose of a complete crisis. Favourable symptoms of this nature indicate that it is no longer necessary to urge the patient to undergo those powerful and continued sweatings. It will then generally suffice to allow him to pass the greater part of the day in a state of moderate exhalation from the skin, and without envelopment. When he is not encased in the envelopment, he must of course be well covered. One envelopment daily must be yet used, which may be in the evening, where fever is perceptible; or in the morning, if that be not the case: the patient should pass two or three hours

in it in moderate perspiration. It is of course understood that after each sweating, an ablution with tepid water is to be performed.

The re-appearance of a discharge of blood, which had been suppressed during this inflammation, is a very favourable symptom, especially if it was the cause of the disease. Whether the discharge takes place from the nose, the vagina, or the anus, it will always deserve our attention, and should neither be augmented by immoderate perspiration so as to exhaust the patient, nor suppressed by cold: both proceedings would be equally pernicious in their consequences, or even fatal.

If the cough continue without beneficial expectoration, if it be dry and harassing to the patient, and the small quantity of mucus coughed up be mixed with blood, cool mucilaginous drinks may be administered, and every rapid change of temperature should be avoided; rest, and repeated ablutions of the neck and chest, will be further necessary.

A crisis presenting itself with general vascular excitement, or with colliquative sweats, must be modified by a judicious use of the wet sheets, where the patient is too weak to bear its violence. Determinations to the head and chest must be relieved by a repeated change of cold bandages, and debilitating diarrhœa must be combated by clysters, to which starch is added.

If the crisis proceed slowly, or we deem it necessary to arrest its course, because the patient has not the strength to support it, we must endeavour in the first case to stimulate the skin to increased activity, by one or more cold ablutions; we must, however, discontinue the stimulating applications, and return to the former proceeding, as soon as this object is accomplished. In the latter case, on the other hand, where the patient is greatly debilitated, the

prospect is very unpromising, as we know of no means by which we might raise the patient's strength so as to enable him to support the crisis. The medical man can do nothing under such circumstances; he must wait for symptoms, and combat them as they appear. The disease, moreover, sometimes takes a favourable turn, so that by one method or another something may be done to save the patient.

During the course of the disease, and during convalescence, the patient must keep his bed and remain perfectly quiet: his diet should be rigid, consisting at first of rice, water-gruel, &c.; thirst should be allayed by tepid water, or rice and barley-water. The patient may be gradually allowed to proceed to cold ablutions, and to more nutritious diet (calf's-foot jelly, &c.,) in the latter stages of convalescence only. We distinguish several forms of inflammation of the lung: rheumatic, bilious, chronic, and even nervous. The treatment of these varieties does not materially differ from that described. Separated symptoms may, perhaps, require some little variation in the local applications. This treatment is applicable to inflammatory attacks of all thoracic viscera, with but few exceptions.

Inflammation of the Stomach.

The symptoms of this disease differ according to the various causes in which it originates. It may be reckoned amongt the most dangerous forms of inflammatory disease. In inflammation of the stomach, violent pain, heat, and swelling in the region of the stomach, are first experienced: to these symptoms are added, spasmodic contraction of the pharynx and stomach, hiccough, nausea, even vomiting, great sensibility in the region of the stomach, affections of the head, giddiness, fainting, delirium, great debility, and sensation of weight in all the limbs. If fever be not pre-

sent at the commencement of the attack, it very soon appears and becomes very violent.

The causes of inflammation of the stomach are various: it may arise from pressure, a blow, injuries to the stomach in general. Indigestible stimulating food or fluids suffice to inflame a weak, delicate stomach; the causes, however, are far more frequently extraneous indigestible substances, corrosive poisons, metals, &c., which may have been swallowed.

If the disease make its appearance after the use of indigestible stimulating food or liquors, after an injury received in the epigastric region, or enervation of the stomach, we should immediately place the patient in a half-bath, at a temperature of 77° of Fahrenheit, the water of which reaches above the stomach. During the bath he should drink water in small doses, (which has stood,) but frequently. His whole body should further, whilst he is in the bath, be washed and gently rubbed by two attendants; nor is the region of the stomach to be excepted, unless too sensitive to the touch. The patient may rub this region himself, as he is best able to accommodate the degree of pressure to his own sensations.

If the pain be somewhat abated after the lapse of a quarter of an hour, the temperature of the bath should be gradually reduced, in the space of half an hour, to 64° degrees of Fahrenheit: this reduction of temperature may be effected by adding cold water to the bath, and removing an equivalent of tepid water.

If, during this half-hour, the attack be considerably modified, the patient should be conveyed to bed, wrapped in a wet sheet, having previously applied a moderately wrung bandage over his stomach. In the bath, and in the envelopment, small doses of tepid water (which has stood) should be administered to him every five minutes. If the

inflammatory symptoms now decrease, we should leave the patient at rest, and not renew the sheet or bandage. Supposing perspiration to appear in a short time, we should quietly await its cessation. It is not necessary that the patient perspire copiously, but we should rather moderate excessive perspiration, by loosening the envelopment and decreasing the covering.

When the patient has passed a considerable time in this state, and his position becomes irksome to him, we must wash him with water of a moderate temperature, apply a well wrung bandage round his body, return him to bed, and regulate his covering, so that he be rather warm than cool. If he feel inclined to eat, we may give him thin water-gruel, or barley-water. The patient must be wrapped in the wet sheet every morning for several days yet, and must remain therein until perspiration ensue, whereupon he is to be washed with cold water, unless indeed the case become worse. He may also take cold water in addition to mucilaginous drinks. His diet must at first be very limited, consisting of mucilaginous, slightly nutrient substances only.

If the inflammation and the fever be not modified by the treatment above-mentioned, we must not leave the patient for so long a time in the bath, especially where pain and restlessness increase; he should rather be wrapped in the wet sheet, and conveyed to bed as soon as possible. The envelopment should be so constituted that the bandage round the body may be withdrawn without disturbing the covering, for the wet bandage must be renewed every six or ten minutes, if the pain continue. If the patient perspire with this change of bandages, it is all the better; but this favourable symptom rarely appears before the pain ceases, when the bandages are to be renewed less frequently: perspiration seldom becomes general before this period.

If this proceeding succeed in affording relief and modifying the inflammation, the treatment before mentioned will suffice to complete the cure.

Inflammation of the stomach, caused by indigestible substances, poisons, &c., in the stomach, requires active treatment immediately. We must begin by exciting vomiting; for this purpose a feather may be introduced into the *posterior fauces* of the patient, who should at the same time drink tepid water plentifully, to promote and facilitate vomiting. This proceeding is only applicable immediately after these substances have been swallowed; subsequently, when the stomach becomes inflamed, it will be of no use; nature, moreover, usually makes an attempt to free the stomach of these noxious substances by spontaneous vomiting, when she cannot dissolve them. Whether the poisons are thus removed or not, the patient is to be placed in a sitting bath of cold water, which reaches above his stomach; and gentle friction with the flat hand is to be performed in the region of his stomach, if he can bear it. At the same time we should give him cold water to drink every five minutes, and a cold water injection every half-hour or every hour. We should keep the patient as long as possible in the bath, until, in fact, some casualty renders it necessary to remove him. The evacuation of urine and fæces he can perform in the bath; the dirty water must be poured away and replaced by fresh. We are frequently fortunate enough to check the most violent attacks of the disease in question, by sitting-baths, injections, and copious potations. The patient should now be conveyed to bed, well covered or enveloped, but in such a manner that cooling applications can be laid on his stomach every ten or fifteen minutes without disturbing him much. If the inflammatory attack continue to decrease in violence, and the patient feel composed, the change of bandages need not

be so frequent, and the cloths may be better expressed. The potations must be indeed continued in this case, but more moderately; mucilaginous drinks must be substituted subsequently for water, and serve also as nutriment during the first days of convalescence. When inflammation is nearly abated, the patient must be wrapped in a wet sheet, in which he must remain at least one hour, or perhaps longer, to restore the interrupted action of the skin.

We do not always succeed in effecting a cure in this simple and easy manner; for occasional disturbances will present themselves, rendering it very difficult to put the necessary plan of treatment into operation, especially where the disease has attained a great height.

If the patient begin to vomit whilst in the sitting-bath—for he cannot bear the sitting posture for any length of time—we must nevertheless endeavour to keep him in the bath as long as possible: if we are obliged to remove him, cold bandages should be applied to his stomach, and frequently changed, whether he be in bed or not. Water drinking and clysters are to be continued even under these circumstances; the patient should now, if not relieved, be placed in a tepid half-bath, where his whole body is to be well rubbed. Should an hour or longer have elapsed without relief to the patient, he should be returned to bed, properly covered, and continue the application of the cloths. These various hydropathic remedies must be changed according to the circumstances of the case; in fact, every thing must be done to save the patient, and promptly, because the disease is rapid in its progress, and the physician has but few hours in which he can act.

It happens, sometimes, that mucus and portions of membranous substance are evacuated by mouth or by anus; in these cases we should give the patient, betimes, mucilaginous drinks, yolk of eggs, &c., and mucilaginous

substances, or oil, should be added to the clysters. Where all these remedies fail, we should try the effect of violent stimulants to the skin, and shocks conveyed to the nervous system, *e. g.* affusion with very cold water from a considerable height; this is especially to be recommended where syncope and delirium are present, or in cases of sinking.

A robust healthy girl, aged nineteen, had eaten a piece of bread, which her mistress had prepared with arsenic to poison rats. Nausea and vomiting immediately ensued, and she was suffering in this manner when I arrived. I ordered the vomiting to be promoted by copious draughts of lukewarm water, until the water ejected from the stomach no longer had an acid odour. The patient could not persevere with the sitting-bath, which was next ordered, because the stomach became enormously distended, notwithstanding the clysters, friction, &c. The pressure of the bandages was insupportable to her, nor could she continue in a half-bath on account of excessive pain. The stomach continued to swell, and the violent palpitation of the heart was not diminished by this treatment. The patient was sinking gradually; she fainted, her body remained hot, but the hands and feet became cold. In this state I had the patient conveyed to bed, the upper and lower parts of the body well covered, and a stream of cold water, falling from a height of several feet, directed to the stomach. This application was continued for half an hour without the slightest change, until a series of very offensive motions followed. The swelling of the stomach now ceased, but the patient was quite exhausted. Affusion was discontinued, and a well wrung cloth was applied to the body; the patient was then well covered and left at rest. In two hours moderate perspiration ensued: she still complained, indeed, of burning, lancinating pains in the stomach and bowels; but by cold water and demulcent drinks, accompanied by clysters,

these pains were alleviated, and a perfect cure was the result.

Thus the medical man, when all known means have failed, and danger increases, is obliged to resort to remedies with whose action he is less acquainted, which appear even to him doubtful or hazardous.

Inflammation of the Bowels.

This affection is one of the most violent and dangerous forms of inflammation, and is distinguished by a variety of symptoms, differing according to the seat and extent of the disease. The disease may be said to be characterized by a fixed continued burning pain in the vicinity of the seat of inflammation. The most essential symptoms are the following; the patients experience an acute burning sensation in the region of the umbilicus; this cholic pain is at first transient, afterwards fixed, and extends subsequently over the whole abdomen, which becomes extremely sensitive, hot, and tumified. The patient is exceedingly anxious and restless. All the ingesta are ejected by vomiting, as is the case in inflammation of the stomach. Obstinate constipation is generally present, and where the disease lasts for a long time, stercoraceous vomiting may attend it. To this state of things are added convulsions, disfigurement of the countenance, and more or less of fever.

The causes of inflammation of the bowels are the same as those of inflammation of the stomach. Beside mechanical and chemical irritation, hernia and cold may give rise to the disease.

In the treatment, our first care must be to examine the abdomen, to see whether a strangulated hernia be present. A rupture should be immediately reduced by an experienced person, if it will not yield to the application of very cold bandages. Where attempt at reduction has not suc-

ceeded, I have found baths of 91° Fahrenheit, in which the patient remains for one hour or longer to facilitate the return of the protruded bowel materially; the rupture has even sometimes been returned by the patients themselves, whilst in the bath. After the reduction of the hernia, copious potations and local applications, more or less frequently changed, according to the degree of inflammation, will suffice to effect the cure.

Inflammation of the bowels, originating in colds, should be combated at first by clysters, of moderately cold water, and by well-wrung cloths, applied to the whole abdomen, by covering the body sufficiently, and by drinking water in small quantities, but frequently.

Where this treatment does not suffice, we must place the patient in a tepid sitting-bath, and as soon as the attack diminishes in severity, we must remove some of the tepid water from the bath, adding cold water, until the temperature of the bath is reduced to 64° Fahrenheit; the patient should then remain a quarter of an hour in the bath, return to bed and perspire freely, and thus await the termination of the disease. Where a foreign body has been swallowed and causes the disease, the patient must drink demulcents, besides water, and use mucilaginous clysters, and tepid half-baths, accompanied by friction. In this manner the foreign body becomes harmless, or is ejected by vomiting.

Where stimulating foods or liquors, or even poisons, have caused the inflammation, mucilaginous drinks or clysters are to be used as in the former case. Tepid half-baths gradually reduced in temperature, accompanied by friction of the body, will also be found very practicable. These half-baths should alternate with the application of wet cloths. Where the pain and inflammation do not cease, the more rapid should be the change; the patient, in fact, when not

in the bath, should always wear a cold bandage. It is preferable to use the wet sheet, if the patient can bear the envelopment, for he will experience the greatest ease if he perspire whilst encased. The repetition of the "umschläge" is, however, by no means to be neglected whilst the pain continues; in fact, we must persevere with the repeated use of them until the inflammation is abated, and the patient has become composed; they may then be allowed to remain for one hour before we change them.

Where the preceding treatment does not succeed in checking the disease, a powerful stimulant, viz., affusion of the whole body with very cold water, should at all events be tried. After the use of the cold water, the patient should be conveyed to bed, properly covered, and should, if possible, sweat; in which case he will be greatly relieved, unless indeed the cold clammy perspiration of death present itself.

Tepid, sitting, and half-baths are chiefly to be recommended in inflammation of the abdomen, arising from suppressed discharges of blood, menstruation, hemorrhoidal bleeding, &c. In these cases, the baths before described should alternate with the use of warming bandages to the abdomen, until we have attained our object of affording relief to the patient, and causing the suppressed discharge to return. Potations and clysters are to be added to the use of baths and "umschläge."

The after-treatment in all these inflammations of the abdomen, consists in frequently washing the neighbourhood of the parts affected with cold water. The diet should for some time be restricted to mild mucilaginous substances, as barley, rice, oatmeal, sago, arrow-root and yolk of egg.

Dysentery

generally presents itself as inflammation of the mucous

membrane of the bowels, more especially of the *rectum*. The patients complain of a burning pain in the bowels, particularly about the *anus*. The abdomen swells, and there is a continued desire to evacuate the bowels, as often as twenty to forty times in twenty-four hours, attended with pain, *tormina*, and *tenesmus*. At first, fæces are passed, afterwards only a little glairy or purulent fluid, or blood, and in the worst form of the disease there is no discharge. These attacks are accompanied by strangury, anxiety, nausea, and violent fever, which readily assume a nervous type.

Dysentery generally makes its appearance at a certain season of the year, under certain atmospheric conditions, *e. g.*, towards the end of autumn after a hot and dry summer. The exciting causes are colds, indulgence in unripe fruit, sleeping at night with open windows, &c.

The treatment of dysentery varies according to the symptoms. At the commencement of the attack the patient should drink cold water copiously (say twenty to thirty glasses) at short intervals; and clysters should be used, at first of chilled water, subsequently of cold water. When the stomach and bowels are thoroughly emptied of their contents, a well-wrung bandage, covering the abdomen, should be applied round the body; the patient should be wrapped in a wet sheet and covered up carefully in bed to provoke copious perspiration; if we succeed in our attempt, we may predict a speedy recovery. If the purging be not too violent, we should therefore leave the patient several hours in the envelopment, before we subject him to an ablution. The water for this washing should have a temperature of 66° to 68° Fahrenheit. Ablution should be performed quickly to guard against cold; for the same reason, it is as well to cover the patient during the process with a blanket, and the floor of the room with a carpet; several

pans should also stand in readiness for use, as the motions should be instantly removed.

If the attack be somewhat abated by this treatment, and the patient feel more composed, cold water should be administered to him, and cooling mucilaginous drinks and clysters; the latter, however, not very often; a well-wrung bandage should be at the same time applied, and well secured round his body, to guard against cold.

Thus we should continue to wrap the patient in a wet sheet once in twenty-four hours, and allow him to perspire for several hours. During the time when the patient is not enveloped, bandages and sitting-baths will be required, which, if the burning at the anus be violent, must be continued for six or eight minutes. The patient should also take water moderately, and demulcents; the latter serving at the same time as his nourishment.

If the morbid symptoms should increase during the first envelopment, especially if the diarrhœa become more urgent, demulcent drinks and clysters should be ordered, and the patient placed in a tepid half-bath, to which cold water is added, until its temperature is accommodated to his sensations. This half-bath supplies the place of the ablution before mentioned.

During the bath, which may be prolonged from half an hour to one hour, the arms and legs of the patient should be well rubbed and brushed.

Where the fever is violent, one or two envelopments must be added to these baths every twenty-four hours, and the rest of the time should be employed in the application of bandages and with the administration of clysters with starch. Water, and mucilaginous fluids, must be the beverage until amendment follows, or symptoms ensue requiring different treatment.

Where this proceeding is also in vain, we must retain the

use of mucilaginous drinks and cold clysters, and resort to affusion with cold water, or plunge the patient in a cold bath several times, then return him to bed, in order to promote the action of the skin, which is most essential; for unless copious perspiration ensue, whilst the other symptoms continue, we shall have slight hope of saving the patient. Great attention must be paid therefore to this branch of the treatment. Affusion, or plunges into cold water, are to be repeated even where the first application of them has not proved successful.

In very obstinate cases, we may resort to the use of sitting-baths, repeated several times in the course of the day. Others may have been more successful than myself, but I have found no material benefit from these baths; in slight cases they are superfluous; in obstinate cases they interfere with or impede the critical action of the skin, and increase the diarrhœa.

Dysentery leaves frequently, as its sequel, soreness of the anus, which may be healed by applying wetted linen to the excoriations, and by frequent ablutions. The abdomen should be covered for some time yet with a single well-wrung linen cloth, to be secured by a dry bandage. The diet must correspond with that mentioned under the head of "Inflammation of the Bowels." Great attention is necessary to avoid colds, which will cause a relapse of the disease, proving, perhaps, eventually fatal.

Inflammation of the Liver

is characterized by various symptoms, depending on the seat and extension of the disease, for the liver is seldom inflamed in its whole extent; the mischief being more frequently confined to certain spots. The most remarkable symptoms are: acute lancinating pain below the ribs on the right side; at the same time the part affected is very

sensitive to the touch; the pain is increased by stretching forth the arm or leg, also by taking a deep inspiration; in fact, the whole of the right side, more or less, participates in the suffering. Heat and swelling are not infrequently perceptible under the false ribs of the right side, and a yellowish colour may be detected in the sclerotic membrane of the eye. These symptoms are always accompanied by considerable febrile disturbance. The patients then complain of pain in the frontal region; they are delirious, and have a dry hot skin: the urine is reddish, or of a saffron yellow colour; there is constipation, or frequent evacuation, of an acrid bilious matter—the latter symptom generally accompanied by griping pain, nausea, or even vomiting.

Inflammation of the liver has the property of extending to contiguous organs, or of affecting them sympathetically, in a more marked degree than pneumonia. It is very slow in its progress, and frequently leaves disturbances of a chronic nature, which may endure for months, for years, or even for life.

It attacks young subjects chiefly, rarely those of an advanced age, and is prevalent during hot summers, and in marshy districts, where the air is impure and moist. The exciting causes are: violent mental emotion, the use of stimulating food and spirituous liquors, the irritation of gall-stones, gout and colds. In treating inflammation of the liver, our chief care must be directed to the production of a rapid and extensive skin-crisis, which is indeed of essential benefit in all internal inflammations, but, in this case, more especially necessary. It is very fortunate that the course of this disease is less rapid than that of inflammation of the lungs or stomach, &c., for we thus gain time and opportunity to prepare the skin for the impending crisis.

The wet sheets are the chief remedies in this as in all

other febrile and inflammatory diseases. As soon as we are assured of the presence of inflammation of the liver, we should proceed to the use of the envelopment, and apply a well-wrung bandage to the region of the liver. In changing the sheets and bandage, we must be guided by the degree of fever and inflammation; a frequent change is only in very rare cases necessary; generally speaking, they will not require renewal oftener than once in the course of one or two hours, or after a longer period.

A precipitate, or too frequent use of the wet sheets, is always injurious to the patients; and if the evil consequences of this practice be not perceptible to the eye of the inexperienced on the first, second, or third day, they are the more destructive the later they are detected. Generally speaking, this frequent change of the sheets is limited to a few days; but then the inflammation and fever suddenly increase, if this has not already been the case, to such an extent that it is very difficult to subdue it. The application of continued cold, by means of the wet sheets or baths, or, what is worse, the douche, is always most injurious in chronic, and more so in acute, affections of the liver. Caution and experience are therefore necessary, if we wish to use these remedies with success.

If the patients perspire in the first envelopment (as may occur) in one or two hours, we should leave them in perspiration for two or six hours, promoting diaphoresis by a moderate use of cold water internally. On cessation of perspiration, an ablution with tepid water must follow, the temperature of the apartment being 64° to 68° Fahrenheit. The patient should then be put to bed, and well covered, to keep the skin in action. If we cannot accomplish our object, and the skin become again hot and dry, and the patient become feverish, it will be necessary to repeat the wet sheets and the former practice. This treatment is indeed

to be repeated until the skin remains moist during the whole day, and the febrile and inflammatory symptoms disappear.

The most important rule in the treatment of the inflammation of the liver, is to observe that period when spontaneous exhalation from the skin presents itself. This must not be interfered with, even if it continue for a long time, and the patient perspire copiously. On critical perspiration, and other critical secretions, success alone depends; we should therefore, if the patient perspire freely under the usual bed-covering, attend to him carefully, to see that he avoid everything that would cause an interruption of sweating. With these considerations, ablutions of the whole body are not to be performed before perspiration has spontaneously ceased. The bandages must not be changed frequently—never before they are quite dry.

These critical perspirations continue but a few days: it becomes therefore necessary at a later period to ensure gentle perspiration for several hours daily—if it be only under the usual bed-covering. If this does not happen, the patient must perspire once at least daily in the wet envelopment. The bandages, ablutions, and potations are to be continued until the patient feels relieved, and is free of fever, when we may proceed to the use of cold ablutions. Exhalation from the skin is still to be promoted, and is the more necessary if a yellow tint is yet to be detected in the patient's countenance.

At the same time with the critical perspiration, complete jaundice sometimes presents itself, which we must by no means allow to intimidate us or induce us to alter our mode of treatment, or to interfere with the perspiration; for we must even then proceed in the manner before described.

If the crisis of the skin be tardy in making its appearance, we must endeavour to bring it about artificially,

especially where the patient is already very weak. We shall most readily effect this object by stimulating the skin by a rapid cold ablution of the whole body, followed by considerable friction with flannel; several persons should perform this operation. It is most advisable to do this immediately before using the wet envelopment. In cases where the skin is not very active, we must of course allow the patients to remain longer in the wet sheets, in order to force perspiration; but this must not be done in the first days of the disease, when the skin shows no tendency to act.

Diarrhœa, which frequently attends this disease, and gives us often trouble, we must endeavour to check by mucilaginous clysters, where those of simple water are not sufficiently active. The patient's food, moreover, must be of a mucilaginous character.

Constipation should be combated by clysters of water, which has become tepid by standing; and the patient must be urged at the same time to drink cold water copiously.

During convalescence, we must take the greatest care that the patient be not irritated to anger, to which there is great predisposition. As soon as the bodily health of the patient, and the state of the weather will permit it, he should pass several hours in the open air, wash the whole body several times daily with cold water, and confine himself to light digestible food.

There are several chronic forms of inflammation of the liver, which are usually converted into acute inflammations by the cold water treatment. If, in our examination of such cases we find that the liver is not enlarged or indurated, and there are no symptoms present indicating consumption or dropsy, we may venture to stimulate the patients at the commencement of our treatment. This is effected by the cold-bath, or more rapidly by sitting-baths,

in which the patient remains for half an hour; we may also use wave-baths, or a slight douche. If we have succeeded in producing general excitement, or by one of the mentioned processes, stimulated the liver to such a degree, that increased oppression in the region of the liver, loss of appetite, high coloured urine, diarrhœa, or constipation, nausea and febrile symptoms appear, it will be time to modify the stimulating plan of treatment, and to make use of the wet sheets and chilled half-baths, as the symptoms may demand; as a general rule, the treatment laid down for acute inflammation of the liver, is to be pursued in these cases as soon as the state of the disease resembles that of acute inflammation. During convalescence, no acute symptoms being present, the treatment abovementioned will suffice to complete the cure.

Where gall-stones are the cause of chronic inflammation of the liver, a number of these biliary concretions, varying in size, will commonly be passed with the stools during the period of general excitement; if we succeed in removing them all, and in so far altering the habit of body that the predisposition to the formation of gall-stones no longer exists, we shall have done all in our power to ensure the future health of the patients; and it will now be necessary for them to confirm our operations by a proper attendance to diet.

In conclusion, I will communicate a successful case, attended with the passage of a large gall-stone. Mr. F. R., from Vienna, aged forty-eight, of short but stout frame, of a bilious diathesis, and choleric temperament, did not remember to have suffered of any illness until his twenty-second year, when he was suddenly attacked with intermittent fever. From that period he had been frequently troubled by jaundice and various disturbances of the digestive organs, brought on by anger, passion, and other men-

tal emotions, to which he was much predisposed since the attack of fever. After undergoing a mild course of water-treatment for six weeks, the patient felt himself very well, and was more contented with the result than I was myself; for I could yet perceive certain symptoms indicating that the recovery was not complete. I therefore ordered him, in the seventh week, a slight douche, once a day during four minutes, before dismissing him as cured. On the morning of the sixth day, the patient complained of weariness, of a sense of weight in all his limbs, with a peculiar affection of the head, and loss of appetite. In the evening, febrile symptoms made their appearance, accompanied by a pain in the forehead, a hot dry skin, a highly coloured urine, and a violent acute gnawing pain in the region of the liver, which was increased on taking a deep inspiration. On the next morning, heat and swelling were perceptible in that region, accompanied by a sense of oppression of the stomach, nausea, and subsequently by vomiting; in fact, on the third day, all the symptoms characterizing inflammation of the liver were present.

Towards the evening of the fourth day, whilst he was in the envelopment, a bilious diarrhœa suddenly supervened. With the fourth motion the patient complained of a pain, as if a sharp body was passing through the anus, and a remarkable round gall-stone, half an inch in diameter, and rather more in length, was indeed found in the motion. The shape of the stone led to the inference that it had remained fixed in, and considerably distended the *ductus choledochus*, communicating with the *duodenum*. The critical evacuation by stool terminated on the same day with the passage of several small gall-stones; but jaundice in a severe form supervened, accompanied by a critical perspiration, which lasted for several days. The patient now began to amend, and subsequently recovered

completely. According to the information which I received a year afterwards, he was still in the enjoyment of perfect health.

The passage of gall-stones is of frequent occurrence during the treatment by water, and happens not only in cases where the liver has been affected for a long time, but also in other cases of abdominal affections, where such a result was not to be expected. I had never seen, in the course of my practice, so large a gall-stone as that mentioned; generally speaking, a number of small stones are passed, after which the patients recover and remain in health, if they use cold water properly, and lead a regular life.

Inflammation of the Kidneys.

This inflammation generally attacks one kidney only, more frequently the left; both these organs are but rarely implicated in the disease. It is recognized by inflammatory and febrile symptoms, and a violent acute gnawing pain felt in the region of the kidneys, more especially on the side affected. This pain is increased by coughing, vomiting, and extends along the ureter to the bladder, causing numbness in the thigh on the side affected, and an ability to walk or stand. The urine is generally voided by drops; and if the attempts to pass water be frequent and violent, a total suppression of urine may ensue, especially where both kidneys are inflamed. These symptoms are accompanied often by nausea or vomiting, swelling of the abdomen, constipation; and, in the male, by a convulsive attraction of the testicles to the abdominal ring.

The exciting causes of this disease are an injury received in the region of the kidneys by fall or blow, stimulating diuretic medicines, especially the abuse of cantharides, suppressed hæmorrhoidal and menstrual discharges, &c.

In the treatment, the wet sheets are to be repeated more or less frequently, according to the degree of inflammation; the same applies to the wet bandages, which should not be well wrung, and changed every five or seven minutes, in severe cases. For this purpose, the patient should lie rather on his side than on his back; the upper part of his body should be well wrapped in a blanket, the lower part in a second blanket, so that the two pass over each other in the region where the bandages are to be applied. In this manner the patient will be far less incommoded in changing the bandages, than if they be passed from the feet upwards, or from the back downwards to the loins.

Cold water should be frequently administered to the patient, but in very small quantities. Clysters are of great service; but as long as the inflammation is severe they should not be of cold water, to the use of which we are to proceed subsequently, or as soon as circumstances will permit.

If suppressed hæmorrhoidal flux or menstruation be the exciting cause of the disease, we must very soon bring the chilled sitting-baths into use; as soon, in fact, as the inflammation is somewhat subdued by the proceeding beforementioned. The patient should take three to four of these sitting-baths daily, remaining in them twenty minutes or longer. During convalescence, moreover, the sitting baths should be continued, as they frequently expedite the cure.

The crisis must be encouraged in this disease as in the former inflammations; it generally shows itself with perspiration or sedimental urine—favourable symptoms, which are by no means to be interfered with, or much less checked.

On acute inflammatory eruptions in general.

By eruption, we understand every breaking out on the

skin, whether it be tubercular, papular, or postular in its nature; whether the skin be raised, or a change be merely observable in its colour. Most people have a predisposition to acute cuticular eruptions, which are rapid in their course. A mere breath is frequently the exciting cause of their appearance.

Where these eruptions do not run their course in a natural manner, they are often followed by very dangerous diseases, and even by death. Where their progress is favourable, they require but diatetic treatment: cleanliness, proper temperature, pure air and rest, light, slightly nutritious food, and pure water as a beverage.

The greatest caution becomes necessary to avoid every thing that might cause a quick disappearance of the eruption (delitescence.) If this should take place suddenly, or the eruption be tardy in making its appearance, it becomes the duty of the medical man to entice it to the surface of the skin by some suitable proceeding. This may be readily effected by the envelopment in wet sheets, and cold affusion, and the more certainly if at the same time the use of water internally be not neglected.

Erysipelas.

This inflammation appears not unfrequently on various portions of the mucous membrane; externally it may present itself on any part of the body; it attacks chiefly the face and legs. The appearance of the parts attacked varies considerably; the skin is occasionally of a pale rose, violet or purple colour, frequently with a yellow tinge; sometimes the surface of the skin is raised into pustules or blebs (bullæ;) sometimes it is flat or even, and simply discoloured. More variable than the symptoms presented by the skin, are the general symptoms which appear at the time of the first attack, or during the course of the dis-

ease; I allude to the character of the fever and other complications.

Erysipelas oftentimes appears suddenly, and as suddenly passes from one part of the body to the other. The patients experience a sharp burning pain in the part attacked, which becomes red, swelled, and tense; or in the course of a few hours blisters appear on the inflamed skin, varying in size, and containing a transparent yellow fluid; in the course of the day these vesicles burst and discharge their contents. This form of erysipelas is confined to the face, and is attended with more or less of fever, which accompanies all varieties of this disease.

As the exciting causes of erysipelas, we consider colds, the stings and bites of insects, injury of the skin by mechanical or chemical means; receded eruptions; it may also appear after the use of stimulating food: lastly, during certain affections of the liver, or of the abdomen generally, during irregular menstruation, and where there is a natural predisposition to the complaint. In the treatment of that form of erysipelas which attacks the internal mucous membrane, we must be guided by the presence of fever, and by the nature and locality of the membranes attacked. Fever is to be moderated by a frequent change of wet sheets, to determine the skin rapidly to a copious critical perspiration; and when this object is accomplished, diaphoresis must not be disturbed by the external application of cold water. Ablution of the whole body should never be performed before perspiration has totally, or at least partially ceased. The use of cold water internally is advantageous in this disease; it should, however, be taken in small, but repeated doses.

Where inflammation has attacked the mucous membrane of the throat, well wrung bandages should be applied to that part, and the mouth and fauces are to be frequently

gargled during the course of the day with cold water. If the functions of the bowels be deranged, bandages round the body, and clysters, deserve recommendation. The latter remedy becomes the more necessary where the alimentary canal is the seat of the disease. In this case the lavements should not be during the first days of cold water, which is not to be recommended until the inflammation is mitigated.

In that species of erysipelas which attacks the organs of generation in both sexes, and appears with a considerable vesicular transparent swelling, causing the patient much inconvenience, we must apply well wrung bandages continually to the parts, and allay the fever, as above, by the use of the wet envelopment. We must be careful, also, to prevent the patients from changing the bandages too often, as they are apt to do, with a view of easing the irritating pain; for although every fresh application brings immediate relief, yet in this manner the exhalation from the skin, which is most essential to recovery, might be easily interrupted. As long as the change of bandages produces no interruption of the functions of the skin, it may be permitted, to mitigate pain; but where there is the slightest chance of interfering or suppressing the action of the skin, it must be immediately discontinued.

Erysipelas of new-born infants attacks children during the first days of birth, to their tenth or twelfth week. Jaundice or miliary eruptions are its usual precursors. At one particular spot in the neighbourhood of the navel, a dark purple-coloured swelling now makes its appearance, which spreads with rapidity, extending over all the limbs; this symptom is accompanied by fever of a nervous or gastric type, and leads, in many cases, quickly to dissolution.

The treatment of these infants is indeed rather difficult.

The envelopment should be carefully adapted to the body, and the linen sheets used in the process must be exceedingly fine and well wrung to produce warmth and perspiration quickly. If we succeed in mitigating the fever and inflammatory symptoms considerably by a repetition of envelopments in the wet sheet, and the perspiration be at the same time copious, well-wrung cloths of fine linen, tepid ablutions of the body, and clysters of tepid water (where the bowels do not act regularly,) will suffice to complete the cure.

In changing the bandages we must be guided by the degree of inflammation in the region of the navel; immoderate heat we must endeavour to subdue as quickly as possible, because this is the most fatal symptom.

In the treatment of erysipelas of the face, whether the skin be raised in the form of bullæ or not vesicated, our endeavour must be to determine the skin to critical secretion. The heat and dryness of this organ with the febrile symptoms will be diminished, and its tendency to perspiration will be promoted by a frequent repetition of "umschläge." If the skin remain rough and dry notwithstanding the use of these applications, we must oblige the patient to remain longer in the envelopment, to produce perspiration; we must, in fact, do every thing in our power to bring about *diaphoresis;* and for this purpose the copious potations of cold water, and subsequently the wet sheets, loss frequently changed, are the most essential means. The application of warming bandages to the parts affected, is but of secondary consideration as long as the skin is not in proper action; nor is it necessary to change them until they have become quite dry. We must indeed limit the change of bandages as much as possible, although the patients are very desirous to have them frequently repeated, on account of the cooling and easing influence they exert on

the inflamed parts; for the wet cloths might create disturbances and further mischief: they are frequently the cause of our not being able to produce perspiration, and of the disappearance of the eruption. We are, therefore, especially to caution patients [and practitioners] against the sole and exclusive use of these local applications. If, in some few instances, they have alone effected the cure, the practice is by no means on that account deserving of imitation, for nature has in some cases been known to overcome the most absurd treatment, the very worst of practice.

In erysipelas, as in a multitude of other diseases, it remains the chief point to do all in our power to force a crisis of the skin quickly. This object being accomplished, ablutions are to be rarely performed, and when resorted to, tepid water should only be used. Finally, we should keep the patient as much as possible in bed until critical elimination has ceased, when he may pass over to cold ablutions, and to his usual mode of living.

Constipation is to be removed by clysters; and excitement of the liver, which frequently occurs, is to be allayed by warming applications (umschläge.) Determination of blood to the head, if the head be not the seat of erysipelas, must be treated with cooling applications until it ceases; but it is better to avoid the use of bandages, if the affection be not too troublesome, for these remedies and all partial baths will do more harm than good.

In Gräfenberg and in Freywaldau, erysipelas of the skin is of very frequent occurrence: it appears towards the end of autumn as a consequence of colds, where patients, more especially those suffering from abdominal affections, have not taken due exercise after the use of baths. As frequently as I have had opportunities of observing this disease, I never met with one single unsuccessful case in consequence of delitescence, or of any other disturbance. I believe I

am justified in contending, that a judicious course of hydropathic treatment, in which the peculiar and safe mode of producing perspiration must be the chief remedy, will lessen or totally prevent the occurrence of delitescence, which is so frequent, under other treatment—a disturbance in the progress of the disease, which often gives rise to various affections, or may even prove fatal. How desirable it is that more attention should be paid to hydropathy in the treatment of a disease of so frequent occurrence, since we know of no other practice that is at all times successful!

Scarlet fever (*Scarlatina.*)

This contagious epidemic does not attack every individual, and never invades the same constitution oftener than once during the life of the person. Children are its chief victims. It prevails generally in autumn and winter, during wet and cold weather. The attack is denoted by weariness and a sense of heaviness in the limbs, and by very powerful rigors, followed by continued burning heat. The patients feel great anxiety, oppression, affection of the head, giddiness, pain and inflammation of the throat, to which are sometimes added convulsions and delirium. The skin appears reddened, and of a bright scarlet colour on the face, neck, and chest; subsequently on the hands and feet also. The peculiar red colour whence the disease takes its name disappears under the pressure of the finger, but returns immediately when the pressure is remitted, and indeed from the margin towards the centre; it rarely extends over the whole body, generally covering single limbs, or single patches of different size and form are only observable. The burning and itching of the skin is intolerable, and portions of the body sometimes swell. With the appearance of the eruption on the skin, or immediately afterwards, the inflammation of the throat, the fever, the anxiety and restless-

ness are generally most violent. When the eruption has endured two or three days, it becomes in very mild cases pale, and at last disappears, observing the same order in its decline as in its invasion. The disease terminates with desquamation of the skin, which peels off in small squamæ like bran, (*furfuraceously*) but in large portions from the fingers and toes. The period of desquamation may last several weeks.

In the course of a mild case of scarlatina, every remedy, without exception, will be more injurious than beneficial; we should, therefore, only prescribe a judicious diet, provide light digestible food, and a uniform temperature of the sick-room (64° to 66° Fahrenheit,) and guard the patients from taking cold. During the prevalence of this epidemic, instances will by no means be wanting where the scarlatina is of so mild a character, that patients expose themselves with impunity to colds, &c.; but these favourable terminations ought always to be regarded as exceptions; for it is infinitely more frequently the case, that patients become subject to dropsy, and other morbid results, without any known cause,—diseases which place the patients again in danger, or may even carry them off.

Cases of scarlatina do not require our interference, unless the eruption is not perfectly developed, or where the fever increases, where the anxiety and restlessness of the patient become evident, and convulsions appear. In these cases, we must proceed to the use of the wet envelopment immediately: the wet sheets should be changed as soon as they become warm; by this circumstance the repetition of them must be guided. It frequently happens that after the first, second, or third change of the wet sheet, the eruption appears perfectly developed. As soon as this favourable symptom is observed, we must change the sheets less frequently, and leave nature to act freely for herself. It is

only in those cases where the progress of the disease is arrested, or where we even observe an exacerbation, that we should immediately resort to the wet envelopments, and continue them until more favourable symptoms reappear.

It is always advisable to make use of the wet sheet in due time, before the fever has attained great violence; for if the rash be not developed, we shall in this way place the skin in a more favourable state for the appearance of the eruption. This proceeding must be continued until the exanthema shows itself well upon the skin, even if we persevere for several days without intermission; but the necessity for a protracted continuance will be an exception, for in most cases the eruption presents itself after the first envelopment.

In those obstinate cases, where the wet sheets are continued for a long time, we must be very careful to maintain the heat of the body, that it may not be too far reduced, and thus endanger the patient's life; it is therefore advisable to leave the patient, after the first to the fourth change of sheets, in the moist warmth of the envelopment, until the sheet has become quite dry; not to change them, in fact, until the first appearance of the rash, which is generally on the face or neck.

The patient should have water frequently administered to him whilst in the envelopment, or even when he is not encased. At all events, thirst should be well allayed; for, by the use of water internally, the exanthema will be greatly encouraged. The evacuations deserve great consideration; the bowels should be kept regular by clysters. If the eruption show itself well during this treatment, we should leave the febrile crisis, the process of elimination and desquamation of the skin, to nature; it being our only care to guard the patient against every thing that might interfere with the eruption, or cause it to recede. We must

even be careful in the use of tepid ablutions, resorting to them merely as *stimulants*, where necessity compels us to employ this remedy.

I must strongly caution against a frequent repetition of cooling applications to the throat during the first stage, especially where inflammation runs high; for I know of many cases which terminated unfavourably, where due attention was not paid to this point, and where the high fever and inactive skin were overlooked. All local applications and baths must be used in this disease with great circumspection—indeed, only as exceptions and as practice based on absolute experience.

Local applications are not only hurtful to patients in scarlatina, but the use of cold water in any form may become equally injurious, if exaggerated or not applied at the right time. It happens, unfortunately, but too frequently, that patients are, without further consideration, wrapped in wet sheets in rapid succession, and subjected to ablutions or baths, without any regard to the temperature of the body or to the development of the eruption. I have even seen patients left in the wet sheets day and night where dropsy had already appeared; where the natural warmth of the body was reduced by this officious interference. I have further seen these patients troubled by one application of cold water after the other, until none was left untried. Is it then to be wondered at that patients should sink under this ill treatment? Errors in practice are but seldom blamed, the injurious effects of cold water the more severely; and yet how often may the water not be decried with injustice, where absurd practice, ignorance, presumption and boldness solely deserve the censure? I am firmly convinced that we might effect more by the judicious use of cold water in all varieties of scarlatina, than by any other treatment; but then this active remedy must not be em-

ployed without experience, or recommended without consideration, as it has been unfortunately of late. There certainly are cases where the course of the disease is so rapid that the most judicious treatment will prove ineffective; or where the rash will recede without any known cause, and the patients suddenly die.

If we observe but the slightest symptom indicative of recession, we must, without delay, resort to cold affusion, to be continued half a minute or a minute, or must plunge the patient three or four times into cold water. The more evident the coldness of the surface, the more speedily should we proceed to the use of the plunging-bath. Pallor and coldness of the skin must be our guides for the repetition of this proceeding; if the skin remain long in this condition, the shock should be persevered in at the shortest possible intervals, until the skin is again excited to action. This being done, affusion is not to be repeated until its beneficial influence has ceased, which will generally be in six, eight, or twelve hours. If our object be accomplished, if the patient be placed in a more comfortable condition, and the skin show more inclination to action, as before the recession of the rash; if, further, all the functions be regularly performed, we may leave nature to complete the cure, provided there is no relapse; we must, however, regulate the diet, and maintain an equal temperature in the sick-room. Affusion is in this case preferable to the envelopment (in wet sheets,) its action is more quick and certain; by it alone we succeed at times in reviving the sinking nervous influence, and in preventing certain death.

The wet envelopment, on the other hand, is preferable in cases where the skin is dry, hot, and burning, and where the fever is violent. Its action is often astonishing: for a tardy rash will sometimes show itself in perfection in the course of a few minutes after the use of the wet sheet. Its

operation is not less beneficial as a sedative in those cases where the skin is covered with the eruption, but dry and hot: and where the fever is considerable, two or three applications of the wet sheets will suffice to allay these inflammatory symptoms. It is impossible to describe the relief and comfort patients experience after one envelopment or ablution.

The tendency to morbid sequels after scarlatina, we cannot prevent by the most judicious hydropathic treatment. Where dropsy makes its appearance, critical secretions (of perspiration and urine) will be wanting. In this case our attention must be directed to the action of the skin; if it be hot and dry, the wet sheets will be required. To moderate excessive heat, and determine the skin to exhalation, the sheets must be changed every half-hour, during half a day at least; after this, the patients may be left for a longer time in the envelopment, and should, at the same time, drink cold water copiously, with a view of promoting perspiration.

As long as traces of dropsy are observable, the patient should sweat for an hour once daily, at least, and should remain in a state of gentle diaphoresis during the whole day. Patients affected with scarlet fever, will sometimes perspire after the first use of the sudorific; in this case, we must neither wrap them up again, nor interfere in any way with the exhalation of the skin, unless the dropsy and its attendant symptoms be removed. Until recovery is complete, equal temperature of the room and a light diet are necessary for patients suffering from scarlet fever.

Small-pox (*Variola.*)

This inflammatory, pustular, and contagious exanthematous disease presents itself with small red lenticular spots, rising above the surface of the skin. In the centre

of the spots a small tubercle is observed, which is at first only perceptible by touch, but subsequently presents itself to the eye. On this small tubercle a vesicle is next formed, which increases in circumference and depth until it attains the size of a pea, and is of hemispheric form. A characteristic indentation is soon observable in its centre. Round the vesicle there is a dark ring of a purple shade. The vesicular elevations appear first on the face, then on the chest, and lastly on the extremities; thus they are perfect on the face, whilst they are increasing in size on the chest, and forming on the extremities. On the ninth day an opaque spot is observable in the centre of the vesicle, and a pale ring round its circumference; thus the discolouration proceeds from the centre towards the periphery. The fluid contained in the vesicle is thick, opaque, and purulent. The formation of the pustules is gradual; when they are fully developed they fall off like scurf, leaving a dark red spot with a violet tinge, which is perceptible for some time; cicatrices, or small pits, known by the name of pock-marks, remain.

The precursors of small-pox are usually a general indisposition, a sensation of pain in the course of the spine and in the *axillæ*, a bitter taste in the mouth, nausea, retching, and violent headache; the heat of the skin is increased, and a peculiar odour is diffused around the patient.

The fever begins early in the disease, increases up to the period of the formation of the pustules, and disappears generally when they are fully developed over the whole body, consequently about the seventh day. The febrile attacks are generally more violent in the evening; sometimes they are accompanied by spasmodic movements, or by perfect convulsion. During the further course of this eruptive fever, the precursory symptoms continue in an augmented degree; the skin of the face, hands, and feet swells. The

wider the interspace between each pustule, the larger they will become. Pain is now felt in the eyes and in the throat; the evacuation of urine and fæces is frequently suppressed; the exhalation from the skin is copious, and of peculiar odour.

With the commencement of the stage of desiccation, the suppurative fever presents itself with rigors; it is frequently so slight that it is overlooked; but the more violent is the fever where the pustules are numerous or confluent. It may then be attended with delirium, convulsion, stupor, and grinding of the teeth, and may continue until the absorption and evaporation of the pus be completed. Salivation or diarrhœa generally make their appearance at this period, and the atmosphere around the patient becomes more offensive.

The termination of the disease in favourable cases, is denoted by a continued exudation of pus from the pocks, by perspiration, purulent sediments in the urine, by salivation, or by diarrhœa.

The disease may prove fatal at any one period of its course, viz.: in the first stage, by the violence of the fever; secondly, if the pustules do not proceed favourably during the period of their development in the suppurative stage; and, lastly, by exhaustion, during the stage of sequences.

Where the progress of the disease is natural and mild, the assistance of art may be dispensed with, excepting as far as it relates to dietetic treatment. During the first stage light nutritious vegetable substances should be offered to the patient, and water as a beverage; the temperature of his room should be equable (from 64° to 66° Fahrenheit,) and he should avoid all excitement.

Where the fever is vehement, the patient should be enveloped in wet sheets, which are to be repeated and continued according to its violence; at the same time we must be careful not to reduce the temperature too far, or thus to

interfere with the development of the eruption. Congestions of the head and lungs should be combated by cooling applications; the bowels must be kept regular by clysters of tepid water. Attention should, moreover, be paid to the patient's diet.

If the formation of the eruption be disturbed in any way, the same treatment will be required as in scarlatina under similar circumstances. All the same cautionary rules regarding the application of the cold water, the encouragement and promotion of the eruption, apply equally to both diseases.

Hectic fever, colliquative sweating, and diarrhœa, occur occasionally during the suppurative stage. The first should be assuaged by the wet envelopment, used with moderation; one envelopment in twelve hours, as long as the hectic symptoms are present will suffice; nor should the patient remain in the sheets until perspiration is produced, but he should be subjected to a cold ablution before this period. The use of cold water internally with moderation, and of rather nutritious diet are moreover requisite; the food, though nutritious, must not be stimulating.

If, during this stage, single parts of the body swell, stimulating well-wrung bandages will be found very serviceable. Spreading ulcerations or diffused suppurations are to be washed with moderately cold water, or, where it is possible, they should be covered with bandages (umschläge.)

Violent colliquative sweats, we should endeavour to moderate gradually by repeated ablutions with cold water, employed three to five times daily. Should the use of these ablutions during several days not suffice to check the sweating, we may have recourse to the wet sheets at the usual time of its appearance; we must not allow the patient, however, to remain longer than one hour in the envelop-

ment, but we should rather repeat it several times, until we accomplish our object of arresting the colliquative sweats. Diarrhœa, which is injurious to the patient, we must endeavour to allay by clysters, adding even starch to them if necessary; we must at the same time give the patient mucilaginous drinks and rather more nutritious food, applying round his abdomen bandages, which should not be too frequently changed, lest we abstract too much heat from the body.

In treating this disease on hydropathic principles, we shall not have to combat the many complications and sequences which are so troublesome where the ordinary treatment is pursued. It is of course understood that the hydropathic treatment must be judiciously conducted, and that the water must be used in due time where the progress of the disease is not natural.

All spurious varieties of pock may be treated, if obstinate, on the same plan, and the same dietetic rules should be observed.

Measles (*Rubeola.*)

This is a less dangerous exanthematous disease; it is denoted by fever, catarrhal attacks, the appearance of dark red lenticular confluent patches, raised rather above the surface on the skin, and followed by furfuraceous desquamation of the epidermis. The usual precursors of measles are, dry cough, hoarseness, sensation of tightness in the chest and throat, with slight difficulty of deglutition, frequent sneezing, and discharge of an irritating fluid from the nose, whilst heat and pain are felt in the eyes. These symptoms increase up to the third or fourth day, when red confluent patches, giving the skin a motley marbled appearance, present themselves on the surface of the body. The heat

of the whole body is at the same time augmented, and the fever increases.

The eruption shows itself first on the face and lastly on the feet.

During the period of eruption the fever increases towards the evening, and is then frequently attended by anxiety and restlessness, by an irregular pulse, convulsive movements of the limbs, and by bleeding from the nose.

In an early stage, small bright red spots are formed, which increase quickly to the size of a lentil; they are oval or circular, resembling the bite of a flea, but with diffused margins. In their centre we observe a little hard vesicle, filled at first with a transparent fluid, and, when perfectly developed, raised above the surface of the skin in the form of the section of a lentil. The spots are generally arranged in groups; in rare cases they are equally diffused over the whole body.

After the appearance of the rash, the catarrhal symptoms and the fever still continue; nor do they disappear totally until the spots become pale, or desquamation commences. When the rash has remained during three days in perfection on the skin, it begins to fade away in the same order in which it made its appearance. The skin peels off in the form of fine dust, from parts invaded by the rash.

The disease is not dangerous where its course is mild and undisturbed, and where persons attacked are careful in their diet, and do not expose themselves to cold. If, during the first stage, preceding the appearance of the rash, the fever be very violent, and the heat and dryness of the skin prevent the development of the eruption, the wet sheets should be used according to the directions given when speaking of scarlet fever, and they should be resorted to with the same caution; they should be continued until the fever is moderated, and the skin becomes softer and more

prone to exhalation; or until the rash is fully developed, when nature will do the rest. The copious use of water internally is occasionally alone sufficient to promote the action of the skin and to encourage the rash; I have oftentimes had occasion to make this observation in my practice.

The application of one or more wet sheets may be requisite, even where the rash is well developed, and shows itself in perfection upon the skin, if the fever be very high and the heat and dryness of the body cause restlessness and loss of sleep. The purpose of the envelopment, is, in this case, to moderate excessive heat, and to ensure the patient's rest.

The eruption of measles will frequently recede, and produce very alarming symptoms of inflammatory affections of the chest, and sometimes of the eyes; in this case the same treatment will be required to remove these symptoms, and to re-establish the eruption (if possible,) as we have before advised in cases of delitescence of the rash of scarlatina. If we succeed in recalling the rash to the skin, all the other troublesome complications will, generally speaking, disappear without the farther use of cold water. Even in those cases where we cannot succeed in reproducing the eruption, cold affusion or sweating in the wet sheets will moderate these symptoms. We may also use bandages as auxiliaries where separate organs or parts are attacked.

Diarrhœa remaining after measles, is to be treated by bandages round the abdomen, by the use of two to three clysters daily, and by mucilaginous diet.

Red-rash (*Roseola.*)

This spurious form of measles or scarlatina appears with various symptoms, resembling oftener the former than the latter disease. The precursors are usually those of mea-

sles: cough, sensation of dryness and irritation in the throat, swelling of the soft palate, difficulty of swallowing, bitter taste in the mouth, nausea, quick hurried pulse, and fever. When these symptoms have endured two or three days, an eruption, bearing some resemblance to that of measles, shows itself on the skin in the form of small spots of a dark red colour, which disappear on pressure, and are often confluent. The eruption differs from that of measles in various respects: it is not lenticular, is of a deeper red colour in the circumference than in the centre, and it forms large patches of a dark colour, with irregular edges, which disappear under pressure.

When the eruption is completely developed, the fever continues yet to the sixth or seventh day. The rash becomes very red towards the evening; in the morning it is less marked, and its colour is less bright; it fades from the day mentioned, and desquamation takes place as in scarlet fever; the skin peeling off in small and large scales.

The disease generally runs its course very mildly. The fever is of a slight inflammatory character, unaccompanied by congestion of the brain; and the rash but very rarely recedes.

The form resembling scarlatina deserves the most attention. If the fever be very violent, and the rash be tardy in making its appearance, we must endeavour to moderate the former, and to entice the latter to the surface by the envelopment in wet sheets. A single application of the sheet suffices often to develop the eruption; two, three, or four envelopments will be but rarely necessary. In obstinate cases we should always be careful to defend the patients from cold, to prevent the appearance of dropsy as a sequence; and, for the same reason, a mild antiphlogistic regimen must be observed.

Nettle-rash (*Urticaria.*)

In this disease, which is of frequent occurrence, the patients experience suddenly a violent itching, burning and pricking sensation in the skin. On various parts of the body, or over the whole surface even, hard, flat, and decidedly raised spots, which are slightly indented on the centre, make their appearance. The colour of the spots is more or less red, with an admixture of yellow, taking a pink tinge; by rubbing or scratching they become more marked and more prominent. The eruption disappears on exposure to warmth; in the cold it reappears; this phenomenon is observed often if the patients only extend one foot out of bed for a short time. These symptoms are generally attended with headache, a bitter taste, and furred tongue, with nausea, vomiting, constipation, heat and fever.

The young are more subject to nettle-rash than old persons; it attacks chiefly those who have an irritable skin, after exposure to cold or wet, after suppressed diseases of the skin, or affections of the liver. It disappears as soon as perspiration is produced, in two to seven days; but has great tendency to relapse, and gives rise, where it recedes too quickly, to various affections of the head.

Our first attention must be directed to the removal of the gastric symptoms, vomiting, or constipation. The former should be encouraged by copious potations of water until all gastric impurities are ejected. Constipation should be overcome as soon as possible by clysters of simple water. Having accomplished this object, we should endeavour to restore the action of the skin by a wet envelopment. If the first application of the wet sheets fails in producing perspiration, we must continue the use of them a second or third time until we attain our end. We must now leave the patient to perspire moderately, but for a longer period,

if possible for several hours, after which process an ablution with tepid water must follow. The patient having dressed himself after the ablution, should walk out in the open air, drink cold water often, and observe a strict antiphlogistic diet. The envelopment and sweating, followed by an ablution, must be continued once daily until the disease has disappeared with all its attendant ills.

If the rash recede, we should endeavour to recall it to the surface of the skin, especially by sweating, either by an envelopment in the blanket alone or in a wet sheet, if the skin be hot and dry. Should the patient have passed a considerable time in his encasement without perspiring, we must not on that account be discouraged, but should wait quietly for several hours, until the skin becomes soft and inclined to exhale; the rash will then show itself at the same time. We should give the patient often small doses of water to drink whilst in the envelopment, to encourage and promote perspiration. It will scarcely be necessary to repeat this treatment.

Where suppressed cuticular eruptions are the cause of the repeated recurrence of nettle-rash, it is advisable, even after the disappearance of the latter, to continue the sweating, followed by cold-baths, until the original eruption is reproduced, or critical perspiration or diuresis ensue, when we may make sure of curing the complaint radically.

If after every catarrh an eruption of this kind appear, the cause is to be attributed to some cuticular derangement. In this case, cold ablutions are to be performed morning and evening, to strengthen the skin, and render it less susceptible to outward impressions.

Some people are subject to an attack of nettle-rash after eating strawberries, crabs, muscles, &c.; if they wish to be free from this troublesome complaint, they must of course avoid indulging in these luxuries.

Purpura (*Miliaria.*)

This rash is generally an attendant of other diseases, or appears as one of their sequels; it occurs also after suppressed diseases of the skin, and with derangement of the organs of digestion. The eruption consists of smaller or larger vesicles of a round form, resembling a millet-seed, surrounded occasionally by a narrow red margin; these vesicles are filled with a lymphatic fluid, which gradually dries; the vesicles then disappear with desquamation of the epidermis. This rash may be present in every description of fever, but it is most frequently observed in nervous, putrid, and gastric fevers, in cases of inflammation and inflammatory exanthemata with the character of these fevers, and in puerperal fever. This eruption is nearly always idiopathic, but it is also frequently met with as a consequence of debility, and of a disposition to decomposition in the fluids; or it may show itself independently of these causes during a course of hydropathic treatment, especially after profuse sweating.

The precursors of purpura are usually a sensation of great weariness, anxiety, tightness of the chest, especially on the left side; restlessness of mind; frequent sighing; inconstant respiration; tendency to fainting; convulsions; hurried inconstant pulse, sometimes remitting; deafness; sensation of creeping at the ends of the fingers and toes (*formication;*) flying pains in the limbs, and even in the face; itching and pricking of the skin; great tendency to perspire, with an acid odour of the exhalation. These symptoms are renewed with the appearance of the eruption, which takes place at an indefinite time; it shows itself most frequently on the back and neck, where it is usually most copious; then again on the chest, on the limbs, and, lastly, on the face. As long as the vesicles are small, and

contain an aqueous fluid, they are called *sudamina*, or *purpura alba; phlyctenæ*, when they have a red base and margin; they are called *purpura urticans*, when the vessels are very large or even confluent, or when the lymph contained in them is yellowish or milky. The rash sometimes remains for several days or weeks on the skin, disappears, returns and fades at last (desiccates,) with desquamation of the skin. This eruption is met with in cases of gout, chlorosis, and dropsy; sometimes also in cases of general debility; it is observed more frequently on the bodies of women than of men.

If the rash appear in the course of a nervous, putrid, or gastric fever, the treatment, to be successful, must be guided by the progress and character of the disease. Should the eruption have originated in consequence of profuse sweats, we may endeavour to limit these (if not critical) by frequent ablutions with cold water, or by envelopments in the wet sheets, preventing the patient at the same time from drinking much cold water.

If suppressed skin diseases be the cause of this affection, we must endeavour to reproduce the primarye ruption, by copious potations of cold water, and by sweatings in the wet sheets, once daily, prolonged for one, two, or three hours; nor should we discontinue their use before we have attained our end, or have, at least, produced other critical excretions.

Where purpura originate in impaired digestion, we should endeavour to modify the constitutional causes by potations, bandages round the body, by clysters, and by tepid sitting-baths: the latter should not be continued beyond a quarter of an hour, but may be repeated several times. We should endeavour to remove the *rash* by cold ablutions, and by one envelopment daily in the wet sheet. The patient must not, however, perspire longer than half

an hour; he must take much exercise in the open air, when the weather will admit of it, and observe a rigid diet.

During a course of treatment by cold water, these eruptions make their appearance at various periods, most frequently in the early stage of the treatment, or after profuse sweating. At the commencement of the cure the eruption is not of much importance, as regards the state of the disease itself for which the treatment is undertaken; we should therefore pay but little attention to it, and continue the plan adopted without any interruption. The eruption on the other hand, which presents itself on the skin after profuse perspiration, is the more deserving of attention, where the treatment has been continued for some time, as it is an indication for us to desist from stimulating the skin, for fear of reducing its tone, and bringing it into a state of complete relaxation: in this case the sweating must be limited, or discontinued entirely for a short time.

CHRONIC DISEASES OF THE SKIN.

The itch (*Scabies.*)

The itch is a contagious chronic eruption, unattended by fever. It is of common occurrence, and may attack the same individual several times during life. If neglected, or driven from the skin by external applications only, it may give rise to chronic and dangerous diseases. Scabies is characterized by a violent itching of the skin, which is increased by the use of spirituous liquors, and by the heat of the bed. Conical or hemispheric vesicles show themselves on the skin, most frequently between the fingers and at the joints. Dry itch does not so frequently make its appearance on the fingers and joints as the common form

of the eruption; it is more confined to the back, arms, thighs, and abdomen. This variety is by no means a trivial affection; for it deprives the patient of his rest at night, by the violent irritation of the skin, and leads often to hectic fever, brought on by the large sores which are frequently observed on the body, where the patients scratch or rub themselves. When the itch is cured by local remedies only, asthma, apoplexy, or dropsy, may be its sequences.

It is not less dangerous to treat the common form of itch by ointments; for, in consequence of such absurd treatment, morbid sequels are often produced, especially in persons in the bloom of life. The consequences generally are vertigo, rheumatism, erysipelas, sciatica, inflammations of joints, especially of the hip and knee joints, ulcerations of the lungs or stomach.

The cure of itch is slow but certain, where the patients will observe a simple diet, and adhere strictly to cleanliness. The patient must perspire in the wet sheet for one or two hours every morning, and take in summer a cold bath, in winter a tepid bath, (at 55° to 59° Fahrenheit,) immediately afterwards. After dressing he should go into the open air, and drink cold water frequently, say twelve to eighteen glasses daily, and must confine himself to a very simple vegetable diet. In the course of the day he should perform two total ablutions with cold water, and lay well-wrung bandages over those parts where the eruption is most evident. By the use of these applications the eruption will be at first increased, but the cure will afterwards proceed the more rapidly.

This plan of treatment is indeed very slow, but safe and harmless, securing the patient at the same time against all morbid sequences. Great cleanliness, as regards the wearing apparel and bed linen, is in this, as in all other methods

of treatment, most essential. The blankets must be frequently washed, or the patient will take the infection again and again. The patient should wear apparel which admits of being washed: this is more especially to be recommended when the itch is on the decline. The patient should never, on any account, make use of wearing apparel which has not been properly disinfected.

Tetters (Herpes.)

The external symptoms of this chronic disease of the skin are various; we therefore distinguish several varieties of the disease, and will particularize the most common forms:

1. The common tetter is most frequently observed on the upper extremities, and presents itself as a bright red spot on the skin. On this spot groups of small vesicles are seen, containing a transparent fluid, which subsequently becomes opaque; they then burst, leaving slight incrustations or scabs.

2. The *furfuraceous* tetter presents itself in the form of numerous small-pointed vesicles, which cause slight itching and burning of the skin; they soon burst, and are converted into mealy incrustations, appearing as if flour had been strewn over the spot. The skin beneath is slightly reddened. The face is generally the seat of this tetter, at the angles of the mouth and the cheeks: they are most frequently met with in young people, and especially in women.

3. Shingles (*herpes circinatus*) are of a bright red colour, with a violet or purple tinge. Small vesicles, not quite round at the base, but rather pointed, and slightly raised above the surface, are observed arranged in groups on the portion of the skin affected. The vesicles are filled with

pus; they burst, and leave a scab, under which matter is formed for some length of time.

4. Humid tetter (*impetigo*) is characterized by a dirty red spot, on which numerous vesicles appear, which soon become filled with purulent fluid, and are accompanied by swelling and tension of the part affected. When the vesicles burst a scab is formed, consisting of several layers, the superior falling off, whilst new layers are being formed: the skin below them is always corroded.

5. Fish-skin or scaly tetter (*ichthyosis simplex*) consists of light grey scales passing over each other, causing violent itching of the skin. When the scales fall off, a yellowish fluid sometimes exudes; but the skin is for the most part very brittle, where this eruption appears, or has been. It is generally observed in young women, especially at the elbow and knee, but often covers even the whole arm, the legs, and large portions of the body.

6. One of the worst forms of tetter is *impetigo rodens*, which appears *par préférence* on the nose, at the junction of the *alæ nasi* with the cheek. A dark spot, attended by a violent burning sensation, forms in this situation, on which several pointed pustules arise: they soon burst, and leave a dark green base or scab, below which the work of destruction is carried on. The mischief is not confined to the skin alone, but extends frequently to the muscles and cartilages, creating terrible deformities. This disease chiefly attacks young women, generally where menstruation is disturbed.

7. Besides the forms mentioned there are a number of other true and spurious varieties, which are known by the name of tetters. As the treatment is much the same in all cases, we will not particularize them, but shall hereafter mention some eruptions of the head, which, properly speaking, belong to this class.

Tetters frequently disappear without appreciable cause, and return in the same manner, or spread and change their place, and thus sometimes invade the whole surface of the body. Some single varieties are confined to definite portions of the body. Persons suffering from abdominal affections, congestions of the liver, and other viscera, from mercurialism, gout, or scrofula, are most subject to this disease. During the period of pregnancy, and in old age, this eruption is very frequent. Its causes are: hereditary predisposition; uncleanliness; the use of stimulating food, and of spirituous liquors; various medicinal preparations, stimulating ointments, especially; violent mental emotions, &c.

The progress of the cure in this disease is often very slow, and requires rigid diet, nutritious food, abstinence from all stimulating ingesta, and accurate diagnosis; for if a disease be the remote cause, we must primarily remove this, and the tetters will then generally disappear without further assistance.

For the removal of the first varieties, a well-conducted course of sweating will generally suffice. The patient should be wrapped every morning in the blanket, the parts affected being covered with wet bandages; or, if the tetters be too numerous, he should be wrapped in a wet sheet, and thus perspire for one or two hours. To promote perspiration, cold water should be administered to him from time to time whilst he is in the envelopment; and a cooling bandage should be laid under his head in cases of determination to that part. After perspiration the patient should be washed, or rather bathed, in water of a temperature not below 59° Fahrenheit. If the skin remain dry and brittle with this water, we may raise its temperature by several degrees. Water of a very low temperature is adapted to

very few cases only. I particularly call attention to this rule, based as it is upon absolute experience.

Copious potations, moreover, of cold water (say ten to twelve glasses daily,) with exercise in the open air, should be recommended. The eruption, if malignant or severe, should be covered with well-wrung bandages, both by day and night, until it is mitigated, and a disposition to heal is observed: it may then be left uncovered for several hours during the day or during the night, to allow the air to act upon it.

If congestion of the abdomen be observed, moderately cold sitting-baths (59° to 68° Fahrenheit) should be used for twenty minutes once or twice daily: where two are ordered, the first should be taken an hour before dinner, the second an hour before bed-time: at the same time bandages should be applied to the abdomen during the day, or in the course of the night.

Disturbances of menstruation are to be treated as we shall hereafter mention; as also scrofula, and affections arising from the abuse of mercury. The appetite should be satisfied with light, mild food; the body should be kept open by clysters, and bandages if necessary. The strict observation of this very simple proceeding will be found far more efficacious for the removal of tetters, and less injurious to the patient, than any other vaunted plan of treatment. Receded herpetic eruption giving rise to various diseases, may be best re-produced on the surface of the skin by a judicious course of water, and by sweating. I have had frequent opportunities of making this observation at Gräfenberg and Freywaldau, and could substantiate my assertion by a number of interesting and successful cases, were I not afraid of rendering my work too voluminous. I will, however, mention one case in point.

N. N., the clergyman at St. ———, came to Gräfen-

berg as a nervous patient, and was dismissed uncured after a protracted course of treatment. The history of his case leaving some reasons for hope, I subsequently undertook the treatment of him. According to the written deposition of his former medical attendant, he had been robust and healthy in his youth, having been subject only to bleeding from the nose. In his eighteenth year he had suffered during two months, of an intermittent fever. In the course of his nineteenth year tetters formed on the upper arm and neck, towards the right ear; they remained on the skin without interfering much with the general health, for many years, although he had used various local applications to remove them. To his twenty-eighth year the eruption gradually spread, and the itching attending it became sufficiently troublesome to disturb his rest at night. About this period the patient had used very potent ointments, which had removed the eruption and some of the adjacent sound skin: but he was certainly freed of this troublesome eruption. From this time he had laboured under vertigo, oppression of the chest, and inflammation of the eyes. No remedies were of service, excepting blisters, which afforded him temporary relief. In a few years, the symptoms mentioned, alternated with a remitting pain, confined to one side of the head: the patient talked incessantly during sleep, and felt a sense of weight in his limbs. He was now obliged to discontinue his duties. Steel-baths were ordered, but proved ineffective: an insufferable itching was now added to the former symptoms; a few sulphur-baths relieved this, but produced a tetter between his legs, covering the whole scrotum. From this time all symptoms disappeared, excepting the eruption, which was gradually cured by rubbing in ointments. It had troubled the patient for some time, however, before it was removed. Nine months after the cure, or in his thirty-eighth year, his mind

was observed to wander; this aberration was accompanied by an unpleasant sensation in his stomach, terminating in vomiting, restless and inconstant sleep; total loss of appetite, alternating with voracity, fanatic ideas on religious subjects; fear and presentiment of death.

Several physicians had attended him during the course of this disease, and had ordered various medicines, but without success; he was therefore removed to Berlin, where he was treated during five months, as insane, by bleeding and by drastic purgatives; but at the expiration of this period he was dismissed as incurable. The disease was now, however, so far modified, that he slept soundly during three or four weeks, and sat quietly during the whole day on his chair, staring vacantly, and not uttering a word. In this state of health he came to Gräfenberg; I undertook the treatment of him, placing my whole reliance on the probability of being able to recall the receding tetters to the skin, or of producing another critical eruption.

Three months had elapsed, and the patient remained in *statu quo*, notwithstanding daily sweats and stimulating applications of water: constipation was even superadded to his former ailments. I should have lost all courage to proceed with the treatment, if I had not been entreated by one of his friends to persevere. In the latter part of the fourth month, the patient became so dejected and undecided, irritable and obstinate, that he could scarcely be induced to leave his room; to this state of mind were added total loss of appetite, and flatulency. These symptoms alternated with violent headache and periodical stitches in the region of the liver, and were followed in seven days by a copious mucous diarrhœa. All the unfavourable symptoms, which had appeared of late, vanished with the frequency of motions; but the old complaint remained unchanged. On the fifth day of the fifth month, after the commencement of this

treatment, the patient fell suddenly whilst walking, and was carried back to the establishment and put to bed, trembling in all his limbs, with congestion of the head, with accelerated pulse, and a dry and hot skin. I ordered him immediately to be wrapped in a wet sheet, and bandages to be applied to his head; the warmth of the body slowly returned, and consciousness more speedily. After the patient had perspired gently for four hours, he was washed with cold water. During this day and the following night no particular change was observable, but towards the evening of the ensuing day a considerable fever made its appearance, remitting during the next three days. The fever was followed ultimately by profuse sweating, which continued for eleven hours.

The patient experienced a violent itching of various parts of the body during this perspiration, and more so after it. Where he scratched or rubbed himself, vesicles of the size of a millet-seed immediately arose from the red, irritated portion of the skin: they contained a yellow, transparent fluid. In the course of two or three days the itching was confined to the thighs, in which situation the eruption assumed the form of tetters, and secreted a quantity of aqueous fluid. Appetite had returned before this period, and all the other functions were now regularly performed. Sleep was sound, if undisturbed by the violent itching; but the patient's mind was yet defective, and remained so for some time. In the course of four weeks a favourable alteration took place, and his former cheerfulness returned. He now took long walks in the mountains, and botany being his favourite study, made a beautiful collection of plants. In six weeks' time the eruption yielded to hydropathic treatment, and the patient was enabled, after a course of eight months' duration, to return to his home cured. According to the last accounts which I have received from

him, he has pursued the active duties of his profession for three years without the slightest interruption.

The number of cures of diseases originating in receded eruptions, itch, tetters, &c., performed at Gräfenberg and Freywaldau, is sufficient to fill a book.

Various forms of disease of the scalp (*Tinea Capitis.*)

Several varieties of this eruption are known. They are mostly chronic, and are partly contagious, partly non-contagious.

One variety of dry scab (*tinea capitis,*) follows the formation of small pustules and vesicles, which are arranged in groups on the anterior portion of the head, where it is covered by hair; it begins at least in this situation, and is there most evidently developed. The pustules cause a sensation of itching, burst, and form a dry, smooth, adherent scab; the hair falls off from the part affected.

Another form (*tinea micans,*) consists of shining yellow scales, two to three lines in thickness. This eruption occurs in children, after the second year, and continues frequently until they are grown up. It is attended also with the total loss of hair, and is a very unpleasant disease, exceedingly tormenting to the patients, and is moreover contagious.

Another variety is scabby scall (*tinea furfurans,*) an eruption on the head, attended with the formation of large pustules, flattened in their centre, forming a friable substance, which is discharged until the whole pustule falls off as a friable scab. This form is also destructive to the hair.

A fourth variety forms pustules analogous to the former, but rather larger, about the size of a sixpenny piece; they are indented at the centre, and rather raised at the margins; on bursting, they form a spongy scab. This erup-

tion is not confined to portions of the head covered with hair, but extends frequently over the face; it is also contagious, and destroys the hair.

More unpleasant than the former is that scall which forms greenish pellucid soft pustules impacting the hair, below which dirt and vermin collect. From underneath the scabs a sharp corrosive fetid fluid exudes, which corrodes the adjacent parts, and thus extends over the whole head (scalled head, *achor favosa.*)

There are several other eruptions on the head; but as I confine myself to the more common forms, I will only mention Milk-crust (*achor larvata,*) which appears generally between the sixth and eighth week after birth, and is only in rare cases a very protracted disease. In its formation it differs slightly from the former. Small pustules, filled with yellowish-white matter, appear upon a red ground; in a few days they burst, and discharge a yellowish-white transparent fluid, leaving a dry scab resembling milk, which extends and frequently occupies the greater part of the head. When the incrustation has fallen off, it is formed again several times, so that it occasionally covers the whole face, with the exception of the eye-lids. A sudden cure, by desiccating remedies, may lead to very disagreeable casualties, even to sudden death.

Many of my readers may consider the enumeration of several varieties of scalls superfluous, as the treatment is fundamentally the same in all cases; but I deem this necessary, in order that the unprofessional reader may not imagine that each of these multifarious forms of skin disease requires different treatment; but that he may rather convince himself that they all yield to hydropathic treatment.

The first indication in the treatment is to remove all exciting causes. The most strict adherence to cleanliness, a simple, mild, nutritious diet, and exercise in the open air,

are points of great importance. The patient should be wrapped every morning in a blanket, and perspire for half an hour, or one hour, according to his constitution; he should change the simple bandage, which he must apply to his head frequently, but cautiously, that he may not interrupt or check perspiration. After each time of sweating, an ablution or total bath must follow. The patient should, moreover, wash his head twice in the course of the day, in the early stage of the treatment, with tepid water, afterwards with cold water; during the rest of the day, and during the night, the head may be covered with a well-wrung bandage. The cure, moreover, will be accelerated by exercise in the open air, and by frequent potations of cold water.

If a scrofulous diathesis be the remote cause of the eruption, the rules which apply to scrofula must be taken into consideration, and thus we shall more speedily attain our end.

Where the functions of the bowels are disturbed, we should endeavour to keep the body regular, by clysters and bandages round the abdomen. In cases where other abdominal affections are present, we must even use the sitting-bath. The bandages and the light covering of the head should be very frequently washed, to prevent further infection. In the treatment of the contagious forms of eruption, this is essentially necessary.

Children under two years of age, suffering from eruption on the head (generally from milk-crust,) must neither perspire every day, nor for too long a time; but they should be subjected to sweating once every second or third day for a quarter of an hour to half an hour; the water-drinking should be limited in the same ratio. Infants suckling, should be weaned—a circumstance frequently sufficient of itself to remove the eruption. Diet must be especially attended to in the treatment of children; we should confine

them to light digestible vegetable food, and above all things prevent them from eating unripe fruit, or acid unwholesome substances, which will alone generate these diseases. The bowels should also be attended to, and kept regular by injections, if necessary.

Pimples (Acne.)

Small red isolated pimples form upon the surface of the body, and proceed for the most part to imperfect suppuration. The fluid they contain ordinarily dries, and the seat of the former pimple is denoted by a red spot. On one and the same individual, pimples may be observed in various stages and states of development. We distinguish several varieties of this eruption; the one (*acne simplex*) occurs to young people up to about the thirtieth year; another variety (*acne solaris*,) appears on the face and back after exposure to the influence of a powerful sun. The colour of these papules is very dark red, and they are attended with pain, burning, and itching. Those pimples which we meet with in older persons, especially in drinkers of spirituous liquors, are much larger, varying from the size of a lentil to that of a pea. This eruption, like all varieties of pimples, spreads over the face; its chief seat is the nose, which is thus sometimes swollen or otherwise altered in its conformation. Persons suffering from disturbances of the digestive organs, hæmorrhoids, &c., are especially predisposed to this disease.

As regards the treatment of the variety of the affection first mentioned, which attacks persons in the bloom of life, every thing should be avoided that acts as a stimulant on the body, as stimulating food and spirituous liquors especially. Washing with cold water in the morning and in the evening, exercise in the open air, and abstinence from every beverage but water, are to be recommended, to purify and

invigorate the skin. To remove impure humours it is advisable to perspire at least once or twice a week in the blanket for one hour; the sweating is to be followed by an ablution with cold water.

Where the influence of a potent sun has caused the appearance of pimples, we should produce moderate exhalation from the skin by the use of the wet sheets, followed by an ablution of tepid water for several successive days, until the eruption peels off, when cold ablutions should be employed three or four times in the course of the day to the termination of the disease. In the treatment of the form of this affection caused by derangements of the digestive organs, hæmorrhoids, &c., we must endeavour above all things to remove the primary disturbances, by sitting-baths, bandages round the body, and by lavements. If the indulgence in spirituous liquors be the cause of the disease, an altered course of life is the most essential injunction. Instead of those noxious drinks, the patient should take nothing but cold water copiously, and observe a rigid diet; simple vegetable food is in this case chiefly indicated. Thus we shall succeed in keeping the disease in bounds. Frequent ablutions of the whole body with cold water, and occasional sweating, would perhaps purge the morbid fluids, and by invigorating the skin, partially exterminate the eruption.

Red-gum (*Strophulus.*)

This well-known disease, which occurs most frequently in children, is generally the consequence of impaired digestion, brought on by improper food or indulgence in various sweets, which have turned acid in the stomach, or by uncleanliness of the vessels containing their food, &c.

The removal of the causes mentioned is our first consideration, and frequently suffices to effect the cure.

If we do not succeed by this plan alone, we must endeavour to evacuate the alimentary canal by the internal use of a little cold water, and by injections of the same. We should further keep the mouth cleansed during the day by a rag dipped in fresh water, and attend in every respect to cleanliness.

As I am speaking of the diseases of children, I will briefly mention

Excoriations.

Infants are frequently troubled with dark red spots, with a brownish tinge, at the folds of the skin, about the neck, on the inner part of the thigh, and in other situations. On these patches small white pellucid vesicles frequently form, by elevating the epidermis. The vesicles soon burst, diffusing a peculiar odour, and leave white spots upon the skin which secrete a little fluid. If these moist sore spots are quickly healed by *pulv. sem. lycopodii*, or by other powders, a number of complaints will be generated, more formidable than the disease itself. The most common sequels are griping, violent screaming, cholic, cardialgia, impaired respiration, eructation, vomiting, diarrhœa. The urinary organs frequently suffer sympathetically ; the urine is then passed with violent pain and by drops only.

In the treatment of these affections, regularity in the functions of the bowels is of the first importance; and for this purpose we should order clysters of cold water. If the child take the breast, the food of the mother, or of the nurse, should be simple, mild, and nutritious; and they should drink water only. The same rule applies to the children themselves, if they be already weaned. Instead of the powders in use, we must cover the sore spots with a small linen rag dipped into cold water, and slightly expressed, and renew it when dry. Before each application,

we should wash all the excoriated spots, and attend to cleanliness, especially as regards the linen rags.

ON CONGESTIONS IN GENERAL.

By this term, we understand disturbances of the equilibrium of the circulation. Congestions are generally met with in organs plentifully supplied with blood, and are produced by an immoderate determination of blood to these parts, and depend upon a vascular irritation, resembling inflammation. Organs thus affected are partially or totally disturbed in the performance of their functions. Congestion is denoted by increased heat, redness, or sense of pressure, of burning, and of pain, with increased action of the arteries in the parts affected, whilst other portions of the body are pale and cold, giving evidence of a deficiency of blood (*anæmia.*) By these symptoms, a state of surcharge of blood (*hyperæmia*) is easily discovered in external parts; but where internal organs are the seat of congestion, it becomes difficult to detect this disturbance. Fever is not always an attendant of congestion; but the latter is frequently met with as a cause or accompaniment of inflammations, convulsions, and flooding. Independent of diseases attended with congestion, infants are most disposed to determination of blood to the head, especially during the period of dentition; young women to congestions of the chest; young men to congestions of the abdomen; and old age again to congestions of the head. Irritable, sensitive, hysteric women, are most subject to congestions in general.

The exciting causes of these affections are various. Everything which acts as a stimulant on the vascular

system, may produce congestion: as immoderate heat, excessive cold, exciting liquors, and drugs, violent exertions, passions, suppressed natural or artificial discharges, and bleeding, a sedentary life, mental emotions, pregnancy, malformation of the large vessels, or of the heart, &c.

The treatment must be guided by the causes; as far as these depend on the patient himself, they must be of course removed, and a simple, temperate diet must, above all things, be observed. The form in which the water is to be applied, must depend on the seat and cause of the affection. By these indications we must also judge whether ablutions, bandages, potations, moderate sweating, cooling or derivative baths, with exercise in the open air, are to be ordered. The douche and cold full-baths must only be used as exceptions, because they are powerful stimulants, and might increase congestion.

Congestions of the Head

are generally sequences of other morbid affections; they are also produced by a sedentary life, by continued study, the abuse of spirituous liquors, excess of venery, errors of diet, and by tight clothing. These congestions are recognized by a hot, flushed, bloated countenance, by headache, strong pulsation of the vessels about the head, by dimness of sight, ringing in the ears, and restless nights, disturbed by dreams. These symptoms are sensibly increased by stooping and coughing.

If congestion be symptomatic, the primary affection will of course require our first consideration; for topical treatment of the determination alone would only impair the general health. Under these circumstances it is better to abstain from all local applications, excepting vital organs, as the brain and lungs, &c., be endangered. Where sudden death is feared, we must necessarily resort to the

surest means of averting this calamity, and persevere with the use of bandages until danger is removed. The treatment of the primary disease must be again attended to after this proceeding.

Where congestion originates in a sedentary and luxurious mode of life, we must purge the body of all crudities by copious water-drinking, by the use of injections, and of sitting-baths. For this purpose the patient must drink according to his constitution, ten to twenty glasses of water daily; use two to three clysters, and take two sitting-baths, each of twenty minutes' duration. With this treatment he must persevere until the body becomes regular, and the congestions are diminished. To modify determination of the blood to the head, we may also apply cooling bandages as long as the bowels are not regular; but this practice should only be continued until the affection is somewhat moderated, because the general treatment must be directed to the abdomen. For this purpose a scanty diet is most essential.

Congestions caused by continued study or by mental emotions, we should endeavour to remove by the moderate use of cold water internally, by tepid foot-baths, and by cold bandages to the head.

Congestions produced by excesses in venery are very difficult to cure, and require protracted treatment. There can be no idea of cure unless the primary cause be avoided. The patients' first duty must therefore be, to remove themselves from the influence of this pernicious habit. An ablution of the whole body with cold water, and exercise in the open air, will be required, moreover, every morning, to invigorate the relaxed skin. The patient must at the same time drink from eight to twelve glasses of cold water daily, and take a cold sitting-bath during fifteen minutes, an hour before dinner-time, and cold foot-baths of ten minutes'

duration. During and after the foot-baths the feet should be well rubbed, to increase the circulation.

Where the origin of these affections may be attributed to restraint by wearing apparel, the tight articles of dress must of course be discontinued. Two ablutions should be performed daily, in the morning and in the evening, with cold water, to regulate the circulation. The patient must lead, moreover, a very regular life, and drink cold water only. With this treatment the disturbances in the circulation will be gradually removed.

Congestions of the Chest.

The exciting and predisposing causes of this disease are, a narrow conformation of the chest, weakness of the lungs, shocks, and other mechanical injury, dancing, singing, and analogous exertions, and prior affections of the chest, &c. The presence of pulmonic congestion is indicated by difficulty of breathing, especially whilst ascending a flight of stairs, or whilst talking loudly, and under similar exertions: further, by a sense of oppression, fullness, tightness, and heat in the chest; by anxiety; flying, dull, or lancinating thoracic pains, especially after certain movements; by frequent sighing and yawning; not infrequently by palpitation, and a dry inconstant cough, sometimes accompanied by a bloated, flushed countenance. These symptoms are less perceptible in a cool temperature or in the open air; but increase in a warmer temperature and in the house. There is frequently a desire and longing after fresh air, which the patients endeavour to gratify by taking deep inspirations. Sometimes slight symptoms of asthma are superadded.

Where the cause of congestion may be traced to malformation of the chest, we can expect no cure even by hydriatic treatment. Frequent ablutions of the chest with cold

water, and the exclusive use of water as a beverage, with exercise in the open air, will at the most afford but temporary relief. In simple debility of the lungs a more favourable result may be predicted, if a judicious course of Hydropathy be combined with exercise in the open air. As soon as the patient arises in the morning (and this should be at an early hour, especially in summer,) he must perform an ablution of the whole body, or at least of the chest and neck, with cold water; he should then walk in the open air, on rising ground if possible, to a certain distance, which he may daily increase. This exercise is very tedious at first—many patients consider it an insurmountable difficulty, and will scarcely venture on an attempt. If we can induce them to obey this order, and to follow it out with determination, it is astonishing how far they will succeed. I have seen a patient, after three or four weeks, accomplish a distance of three or four miles on rising ground without much exertion, who at first could hardly walk two hundred paces without sensible fatigue. The patients must try the ablution, potations, and exercise on rising ground, several times during the day, observing to drink always *before*, never *after* exercise. A bandage applied to the chest during the night will be found very advantageous.

Congestions of the chest, caused by mechanical injury, require greater caution, the more so immediately after they have been received. As long as no positive inflammation is present, the immediate use of warm foot-baths at 91° to 95° Fahrenheit, and large cold bandages to the chest and back, renewed according to the violence of the symptoms, will suffice to afford speedy relief. When we have succeeded in producing an amelioration in the breathing—diminution of the oppression and anxiety—the bandages may be restricted to the chest, and changed less frequently, in a ratio corresponding with the decrease of the sufferings;

and we may remit the foot-baths altogether. Potations are, indeed, very useful, but we should not give the patient much cold water at once, because it increases the disturbance and inconvenience. The patient being somewhat restored, should pursue the following course to complete the cure, and guard against relapse: he should frequently wash his chest with cold water, at least every morning and evening, drink cold water plentifully, avoid, of course, all shocks, (lifting and carrying heavy weights,) and abstain from all stimulating food and liquors.

Congestions remaining after disease of the chest require the most careful treatment; we must first discover whether they be continued or remitting, or trivial and of short duration. If slight, cold ablutions of the chest, copious potations of cold water, and exercise in the open air, will generally suffice to remove the untoward symptoms gradually. Continued congestions will require more circumspection on the part of the medical man, and great perseverance on the part of the patient. Ablutions and bandages to the parts affected will seldom suffice in these cases, and we must resort to derivative baths also; but it is difficult to determine, *à priori*, which description of bath is most practicable. Some patients gain the most benefit from sitting-baths of a moderate temperature, continued for twenty minutes twice or thrice daily, accompanied by water-drinking, ablutions, &c.; others, again, derive more advantage from foot-baths of the same duration, and as frequently repeated. It is therefore advisable to watch with attention the action of the first bath the patient takes, and thus to discover which species of bath he may employ with most safety.

Congestions, appearing as a sequel of itch and other skin diseases, which have been cured by topical remedies, require for their treatment the re-establishment of the eruption on the surface. To fulfil this object we must wrap the patient

daily in the wet sheet, to produce perspiration. This envelopment must be followed by a bath, by friction, and by the use of copious potations. If the original eruption or any other rash appear after a continuation of this treatment, we must endeavour to remove it again by the same process: viz, by drinking, sweating, and bathing. We need not in this case fear that the rash will recede; for it will remain upon the skin until the humours are perfectly purified by perspiration and by other excretions. These eruptions are at times kept up longer than is necessary by the use of stimulating food, immoderate perspiration, and baths of a low temperature during the winter; the influence of such injurious agents should therefore be avoided in the treatment of every description of eruption, wound, or ulcer.

Congestion of the Abdomen (Hæmorrhoids.)

In this denomination we include determination to the rectum, that affection known by the name of "piles." The presence of piles is denoted by inflammatory symptoms, by fever, considerable pain, &c.; but we will first consider the symptoms of this multifarious complaint in general.

The patients at first complain of a sense of oppression between the umbilicus and stomach, accompanied by burning and by a strong pulsation in the epigastric region. The hypochondriac region swells most frequently on the left side; to this is added loss of appetite, with sudden immoderate fits of hunger, offensive breath, and heartburn. The evacuations become irregular; constipation, lasting from two to three days, will change with diarrhœa of the same duration. The colour of the countenance changes, becomes sallow, pale, generally with a yellow shade; dark rings are formed round the eyes; the patient complains of weariness in the limbs, and his spirits are depressed.

A more severe form of the disease is denoted by a feel-

ing of tension, heat, and weight about the sacrum and in the small of the back, which renders standing, stooping, and every movement, in fact, irksome to the patient. At the same time, various vessels swell in different portions of the body, and form, in men, varicose enlargements in the rectum; and, in women, at the inner side of the thighs, and in the genital organs. These swellings may give rise to various inconveniences, especially if the tumours be irritated by stimulants, or the patient be subjected to injudicious treatment.

After the formation of these hæmorrhoidal tumours, the disease attains its greatest height. Desire to evacuate the bowels frequently torments the patient; the motions are passed with pain, resembling labour pains, and blood is observed to be mixed with the discharged fæces. More or less blood is passed subsequently. The hæmorrhoidal flux continues for a variable period, and generally moderates all the prior sufferings.

This may be said to be the description of the ordinary course of the affection. We will now mention several symptoms of the less common form of the disease, observed where the brain, spinal chord, breast, spleen, kidneys, bladder, and other parts are implicated in hæmorrhoidal congestion.

Where the brain is sympathetically affected, the symptoms are a sense of weight in the head, vertigo, various illusions of the senses, defective vision (*photopsia*,) &c., disturbances of the organs of hearing denoted by ringing and various noises in the ears, caused by fullness of the vessels. In cases complicated with costiveness, these symptoms are most evident.

Where the spinal marrow is the seat of congestion, the patients experience a sensation of stiffness and weight down the neck, and a difficulty of swallowing; they are also

troubled with a sensation of contraction or stiffness in the extremities.

These hæmorrhoidal complications frequently affect the chest, causing congestion of the lungs or heart. The latter affection is met with more frequently in women than in men. The patients complain of a sensation of considerable oppression in the region of the stomach, which, on examination, appears swelled, and is found to impart a sense of pulsation to the hand of the examiner. In severe cases, asthmatic attacks are superadded. Congestion of the lungs is known by a feeling of oppression on one or on both sides of the chest, attended by difficulty of breathing. The overloaded state of the lung (*hyperæmia*) is, moreover, recognized by the practical observer by the peculiar respiratory sound. A dry cough, and nervous affections, are frequently added to the foregoing symptoms.

Where the spleen is congested in conjunction with hæmorrhoids, it appears immediately enlarged and swelled, and may be felt even through the abdominal integuments. The overloaded state of this viscus, causes likewise difficulty of breathing; the patients experience the most inconvenience on the left side of the chest. A slight dry cough accompanies this state of things. Lancinating pains are very soon felt in the diseased organ, and are always increased after eating, acid eructation, heartburn, and frequently vomiting, are added to these symptoms. The stomach itself is swelled and painful.

Where the bladder is implicated in the hæmorrhoidal disturbance, the patients complain of periodical violent pain and tension about the neck of the bladder, especially when they are about to make water. In severe forms of the disease, these pains are greatly augmented, and the urine passes at first by drops, afterwards in small quantities at a time, but never in an uninterrupted stream; the pains con-

tinue even after the urine has been voided. The colour of the secretion is variable, frequently reddish or mixed with mucus, at times dark-red, and coagula of blood are passed with it in the form of shreds. This disease is very painful, and patients thus afflicted can neither sit nor stand.

At times suppressed hæmorrhoids will sympathetically affect the kidneys or genital organs; the latter organs are most frequently attacked in women advanced in age, who complain then of a sense of oppression in the pudenda, and a little blood is passed even between the menses, which is darker in colour than the menstrual discharge.

Where the kidneys are the part affected, the patients complain of a sense of oppression in the loins on both sides of the body, and of a dull pain descending towards the bladder. Dyspepsia, with weight and pressure in the stomach, and at times vomiting, are added to the former disturbances. The urine is of a dark brown colour, and is often voided in large quantities.

Hæmorrhoids appear generally in the meridian of life, from the thirtieth to the fortieth year; but often at an earlier period, as in cases where there is an hereditary predisposition to the affection. The causes, besides hereditary predisposition, are a sedentary, inactive life, indulgence in in a highly stimulating diet, in spirituous or fermented liquors.

The terminations of this disease are very variable. Even simple hæmorrhoids assume frequently a very malignant character, where they become inflamed; but they are more dangerous yet, when they are complicated, or lead to other diseases, in which case the original affection may disappear, or its attacks may alternate periodically with the secondary disease; or the hæmorrhoids may also remain as complications of another disease to the termination of life. Hæ-

morrhoids are most frequently associated with gout, and cause also the formation of gall-stones, dropsy, cancer, &c.

The treatment of hæmorrhoids is necessarily very protracted, as the difficulties we have to contend with are numerous. The most careful observation of the stages and complications of the disease becomes necessary, and according to this the plan of treatment to be adopted must be determined upon. Individuals suffering from this disorder as a consequence of hereditary predisposition, should be very careful to keep the functions of the bowels in due order, by a mild and simple diet, and by the copious use of cold water internally. Where water drinking alone will not suffice for this purpose, lavements of simple water should be employed as auxiliaries, and the patients should avoid sitting as much as possible. Thus, they must perform all their occupations in the standing posture, and take exercise in the open air; and, finally, should lead a very quiet and natural life. The observation of these rules will also suffice for those persons who are suffering from incipient piles, and in whom the disorder may not be hereditary: the former will, by observing this regimen, arrest the progress of the disease, and prevent dangerous complications, whilst the latter will suppress the rising evil.

A more rigid regimen becomes necessary where the disease has already made some progress, and the patients complain of various abdominal affections, of impaired digestion, constipation, hypochondriasis; or where hæmorrhoidal tumours have formed about the anus, or in other parts. The patient must then never sleep in feather beds: he should drink nothing but cold water, taking ten to twenty glasses daily, according to his constitution: he must, further, take a sitting-bath one hour before dinner and before bed-time, in which he should remain during ten to fifteen minutes. The bath must neither be too cold nor

too warm: in the former case, it would produce unpleasant sensations, instead of affording relief; in the latter case, the high temperature of the water would increase the number and size of the tumours. Besides the bath, total ablutions with cold water, bandages round the abdomen, and exercise in the open air, are to be earnestly recommended. If this treatment alleviate the morbid symptoms, it must be persevered with until the cure is complete: we may, however, at a later stage of the treatment, make a slight alteration in respect to the sitting-baths, which may then be of cold water. Constipation we must endeavour to overcome by clysters, used once daily in slight cases; but were the affection is more severe, they will be required three times in the course of the day. During the period of bleeding from the anus, neither the sitting-bath nor the clysters should be quite cold, to avoid suppressing the discharge quickly.

Immoderate hæmorrhoidal flux we must endeavour to mitigate by a repeated change of bandages to the small of the back, and by a gradual transition to cold sitting-baths, accompanied by warm foot-baths, at 89° Fahrenheit. In this case great caution is requisite to avoid arresting the discharge too rapidly,—a proceeding which would lead to further mischief.

Suppressed hæmorrhoidal bleeding me must endeavour to re-establish by warm sitting-baths, at 68° to 73° Fahrenheit, in which the patient should remain for twenty or thirty minutes, and by applying warming bandages round his body. If the patient's feet are observed to be cold during this stoppage of the periodical bleeding, we must rub them frequently with the hands, dipped repeatedly into cold water, and we should afterwards employ friction with flannel or brushes to accelerate the circulation, and to restore the vascular action in these parts.

Where the treatment mentioned produces no alleviation, where the pressure, heat, burning, tension and swelling of the abdomen continue, it will be necessary to subject the patient to sweating in a blanket in the usual manner, for one hour on several successive days, and to continue at the same time with the other remedies, until their object is fulfilled. The process of sweating, followed by an ablution, is to be enjoined in nearly all stages of hæmorrhoids, provided more simple treatment does not succeed; but where sweating is required for a length of time, the duration of the process should not extend beyond half an hour or three quarters of an hour, except indeed other complications render purification of the fluids of the body advisable.

Sitting-baths in rivers are of admirable effect in removing congestion in the abdomen, provided these remedies be used with discretion and judgment. In taking a bath of this description, the patient should turn his body frequently, that the powerful stream may be brought in contact with the spine, the sacral region, and the loins, as well as with the abdomen. Where a river-bath cannot be obtained, we may have recourse to a slight douche, directing the stream for a few minutes to the region of the sacrum. The operation of this remedy is by no means as effective as that of sitting-baths in rivers. The use of the douche and of sitting-baths must be of very limited duration. These remedies act as powerful stimulants, and might increase the congestion if persevered with for a long time. When we have stimulated the torpid vessels to activity, we must return to the sedative or derivative modes of applying the cold water, according to the state of the patient.

During a course of treatment by water, patients who are affected with congestion of the abdomen, will suffer greatly from varicose tumours, and ulcers, on the abdomen, thighs, and legs, preventing them often, for some time, from

walking. Considerable quantities of coagulated or fluid blood, will sometimes be voided by the anus; but this periodical discharge will seldom continue longer than three or four days. Loose motions, accompanied by mucous discharge, are added to the former inconvenience; but this diarrhœa is fortunately confined to a short period, for in forty-eight hours it generally ceases. It is further deserving of observation, that considerable portions of coagulated lymph are frequently passed with the motions; these false membranes assume the form of the intestine to which they may have been adherent, and hypochondriacal patients who observe these condensed portions of muous in the motions, are frequently led to consider them as a part of the gut itself.

Sudden violent discharges of blood frequently alarm the patients; but as a general rule, the hæmorrhage is not attended by evil consequences. Of the many cases which have come under my observation, I have never yet known one such case to terminate unfavourably. In illustration of this observation, I will briefly mention a very interesting case.

A captain of the Hungarian cavalry, who was under my treatment for hæmorrhoids in an advanced state, suffered so severely from these frequent varicose swellings on the abdomen, that he was sometimes confined to his bed for three or five days; this was especially the case during the latter part of the treatment. The three swellings last formed were the largest; two of them burst,—the one on the seventh, the other on the ninth day,—discharging their contents: blood, and a sanious fluid, externally. The third and largest swelling was situated low down on the abdomen, in the inguinal region, and caused the patient much uneasiness. As it would not burst, he impatiently begged of me repeatedly to open the tumour. I promised to do so

on the following morning. On entering the patient's room on the next day, I perceived a quantity of sanious discharge in the vessel standing by the patient's bed. To my question, whether his tumour had opened spontaneously, he answered in the affirmative, adding, that I should scarcely guess in which situation. He showed me the place where I had felt the swelling (of the size of a large egg) on the previous night, but I could perceive no traces of an opening; and the integument of the tumour, which was before discoloured, appeared of a natural colour. The patient now told me that he had suddenly felt, about twelve o'clock in the night, an inclination to go to stool, and that he had made use of the vessel in question, fancying himself attacked by diarrhœa. He passed a very loose watery motion, as he imagined, but soon discovered, to his astonishment, that the discharge consisted of hæmorrhoidal blood. The tumour in the inguinal region suddenly came to his recollection; he involuntarily carried his hand to his groin, and felt, to his great satisfaction, that the swelling had entirely disappeared.

Many physicians will, perhaps, smile at the course of this discharge, which they cannot account for, or will consider it as one of the ordinary miraculous tales of the day; but I am willing to give the address of the patient to those who may wish to hear the case corroborated by the patient himself.

From the treatment of simple hæmorrhoids, we will proceed to the consideration of complications frequently attending this intestinal disturbance, beginning with affections of the brain in connexion with this disorder. Where hæmorrhoids have disappeared totally or partially, and the patient experiences a sensation of fullness of the vessels of the head, attended with vertigo, dullness, and other head symptoms, he must endeavour to restore the distension of the

mesenteric vessels by the occasional use of tepid sitting-baths and foot-baths, at a temperature of 68° to 73° Fahrenheit, and by applying cold bandages at the same time to his head. In the morning he must wash the whole body with cold water, take a foot-bath of twenty minutes' duration, immediately afterwards walk out into the open air as usual, and drink cold water frequently. The sitting-baths are to be taken at eleven o'clock in the morning, and again an hour before bed-time, the patient remaining half an hour in each bath. Constipation must be obviated by the use of tepid clysters. This treatment should be continued until the determination of blood to the head yields, and congestion is observed about the rectum, when the treatment for the latter affection must be put into operation.

Where spinal congestion is a consequence of suppressed hæmorrhoidal flux, the patient should sweat every morning in the wet sheet for half an hour until the spinal affection is relieved. When the sheets are insufficient to produce perspiration, we may have recourse to the woollen blanket, having placed a wet bandage along the spine of the patient, before enveloping him. Sweating must be followed by exercise in the open air, and by copious potations. Besides this, the patient may take two sitting-baths of a temperature of 59° to 64° Fahrenheit, remaining a quarter of an hour in each bath. In the course of the day the extremities and spine should be washed for several minutes with cold water, and are to be well rubbed and brushed after the operation. This treatment must be continued until we have equalized the circulation, or until the congestion shows itself in the abdomen, in which case it will require treatment accordingly.

The treatment of those irregular congestions which attack the thoracic viscera, the heart, the lungs, or even the spleen, is similar to the former, excepting that the bandages are of

course to be applied to the parts affected with congestion; and that the patients, whilst in the envelopment, are to be laid with their heads raised, to prevent sensations of suffocation. Their position must be rendered, in fine, as comfortable as possible to them. If the patients feel relieved by *diaphoresis*, we may promote the exhalation from the skin until the favourable symptoms cease. The foregoing treatment must be continued until the affected organs are free from congestion.

Where symptoms of paralysis appear in the congested organs, cold foot-baths, of short duration, followed by friction and brushing, are of essential service. At the same time, the region of the organ affected, should be gently rubbed with the hand dipped in cold water, to excite the vessels to increased activity.

The treatment of hæmorrhoidal congestion implicating the kidneys or bladder, is somewhat different. In this case both the temperature and duration of the sitting-bath must be experimentally accommodated to the sensations of the patient. The baths are to be repeated according to the exigencies of the case, and are to be used in the manner found most beneficial by previous experiment. Immoderate accumulations of urine in the bladder, must be removed skilfully by means of a catheter, where the tepid sitting-baths and warming applications (umschläge) round the abdomen have not proved sufficiently active. The use of this instrument will seldom be required, if we attend betimes to the secretion of urine, and promote it by sitting-baths of considerable duration. The use of cold water internally, which always deserves recommendation, may be moderated, whilst the organs affected are suffering severely from congestion; but the potations must be copious and frequent when the vascular action of these parts is restored.

Activity, acute observation, circumspection, and practical experience in hydropathy, are very necessary in the treatment of irregular hæmorrhoidal flux: persons deficient in these requisites would do well to avoid undertaking such cases, or to venture merely upon the treatment in cases of great necessity. Besides the foregoing rules, attention must be paid to the action of the bowels, and exercise becomes advisable in the open air, where there is no contingency impeding this advice. Exercising the arms, to increase the circulation of blood in these parts, is of essential service. A rigid regimen must, moreover, be observed; the food should consist of vegetables only, and the beverage of cold water.

DISEASES CONNECTED WITH DISTURBANCE OF THE FUNCTIONS OF SECRETION AND EXCRETION.

These diseases may be arranged under two heads: 1. that of morbid discharge; and, 2. that of morbid retention: the former indicates a disturbance in the periodicity of secretions or excretions; the latter, a retention or total suppression of the same. These diseases are rarely idiopathic; but are for the most part complicated with general constitutional disturbance. We will first speak of morbid

Discharges.

By this expression we understand every immoderate evacuation of fluids, whether natural or morbid. The chief forms of this affection are discharges of blood, which are either too copious, or take place at irregular times, or flow from parts not destined by nature for this purpose.

Congestion, as a rule, precedes this flooding. The symptoms of congestion we have given in the last chapter. Where the blood discharged is of a bright red colour, we

may conclude that it is arterial; where, on the other hand, it is of a dark colour, frothy and fluid, it will probably proceed from the veins. Sometimes blood is passed in a state of coagulation, in which case it will have been retained in certain cavities of the body.

Internal hæmorrhage is denoted according to its source, —the head, chest, or abdomen; by affections of the head, —vertigo, sleepiness, paralysis, apoplexy—tightness of the chest, (*angina*,) increased heat and pains in the chest, cough, and sometimes asthma—a sensation of pressure, tension, and repletion of the stomach, nausea, vomiting, syncope, swelling of the abdomen, with increased heat. Besides these symptoms, there are certain signs of loss of blood common to external and internal hæmorrhage, as pallor of the countenance, of the gums, lips, and cheeks; the features become marked, the nose is prominent and pointed, the body shrinks or diminishes in bulk: the pulse is small and remittent, the eye dull and heavy; the feet and hands are imbued with clammy perspiration. These symptoms may be followed by death, with violent convulsions, or during a fainting fit with a few convulsive movements.

In arresting hæmorrhages, we must first inquire into the cause of the disturbance: remove this, if possible, and every thing, in fact, that might promote the bleeding.

All articles of wearing apparel which fit closely to the body should be removed. The atmosphere of the room should be cool, and adapted to the condition of the patient; his covering must be light, and the water which he should drink must be of a moderate temperature. Where an injury is the cause of bleeding from a larger vessel, surgical assistance will be necessary. Where the injured vessels are of a small size, cold applications will suffice to stop the bleeding, especially if combined with pressure to the

wounded part. When we have succeeded in checking the flow of blood, we must be cautious in our manipulation, in removing the bandages, to prevent a recurrence of the hæmorrhage; it is therefore better not to remove them, but to pour cold water over them.

Bleeding from the nose (Epistaxis.)

The hæmorrhage in this case proceeds from the vessels of the mucous membrane of the nose; the blood flows from one nostril in drops, or in an uninterrupted stream; rarely from both the nares. *Epistaxis* is generally preceded by determination of blood to the head or chest. In cases of congestion, a moderate efflux of blood from the nose may be regarded as critical, as it generally puts a termination to the former disorder; the bleeding must, therefore, in this case not be stopped, except, indeed, it becomes too violent, or is protracted. Where the determination of blood to the head does not cease after the discharge of a considerable quantity of blood, we must have recourse to a tepid foot bath, accompanied by repeated cold bandages to the neck and head. Bleeding from the nose is frequently arrested by drawing cold water into the nose, or by plugging the nostrils with pledgets of lint dipped into cold water. Where hæmorrhage continues after the nares have been plugged, and the blood passes away by the mouth, we should remove the wet pledgets from the nostrils, and apply bandages to the genital organs.

If all means adopted have proved inefficacious, a sheet dipped into very cold water and slightly expressed, must be folded, laid upon the floor, (in summer on the cold ground;) the patient then lays himself, with his head rather raised, on the wet sheet, which is now to be wrapped round his body; cold bandages are at the same time applied to his neck and chest, and he is to be lightly covered. In

inconvenience we may guard against by loosening the envelopment, and giving him rather more cold water to drink. After the process of sweating, we must cautiously wash the whole body of the patient with moderately cold water, but without shaking him, and return him to bed with the same degree of caution. The patient should remain passive, as far as it is possible, during this process. Where the hæmorrhage ceases after the first envelopment, it will be advisable to repeat the sweating for several days successively, but not oftener than once daily. The temperature of the sick-room should be rather cool than warm. It sometimes happens that the hæmorrhage is not checked by the first envelopment. In this case bandages must be applied round the chest, whilst the patient is in the envelopment; but these auxiliaries are not to be renewed after bleeding has ceased, as they would interfere with *diaphoresis*. The internal use of cold water is often sufficient to moderate the hæmorrhage, especially if the patient remains quietly in the wet sheets. Water should be offered frequently to the patient, but in small doses.

When suppressed *epistaxis*, hæmorrhoids, or menstruation, are the cause of this bleeding, we must endeavour to recall the primary discharge, according to the directions before given. Where the flooding requires immediate assistance, we must proceed according to the plan of treatment I shall hereafter explain.

If this form of hæmorrhage be produced by violent exertion, a cooling application should be laid upon the patient's chest and neck; he should drink cold water frequently, but in small doses, and should further take a foot-bath at a temperature of 41° to 44° Fahrenheit, and of six minutes' duration, every eight or twelve hours. If we cannot reduce the temperature of the foot-baths to this degree, they will not act as stimulants, and will be consequently

useless. In these cases it would be better to use warm water at once, of a temperature of 77° Fahrenheit, for the foot-baths, in which the patient should remain during half an hour, and to brush and rub the feet well, until they become both warm and red. If by this treatment we succeed in mitigating the unfavourable symptoms, it will be yet advisable to allow the patients to perspire moderately in a wet sheet for several successive days, and to continue with a cold ablution after the envelopment, to equalize the circulation.

Rest is most essential for these patients, not only during the course of the disease, when the symptoms are alarming, but during the whole period of convalescence. The diet should be of a mucilaginous character, and the patient should court the open air.

Vomiting of blood (*Hæmatemesis.*)

This disease more commonly affects women than men, and is seldom met with in persons before the thirtieth year of life. Its causes are, generally: suppressed eruptions, hæmorrhoids, or menstruation; the absurd abuse of emetics; indulgence in stimulating food and spirituous liquors, and occasionally organic lesions of the liver or spleen.

The precursors of this disease appear long before the actual accession. They are,—impaired digestion, depression, and other mental symptoms; sense of oppression of the stomach and constriction of that organ, with inclination to fainting; bitter or acid eructation, and head affections. When these symptoms have endured some time, and have attained some considerable height, the patients experience suddenly a sensation as if some warm fluid were poured into the stomach, and the epigastric region swells. At the same time there is nausea, and, at last, vomiting, with a discharge of blood varying in quantity, sometimes in

streams endangering the patient's life. Where the cold perspiration and anxiety increase—where palpitation, loss of sight, ringing in the ears, vertigo, tremor, and syncope are added—we are justified in giving the most unfavourable prognosis. The colour of the blood voided is very variable; in some cases it is light-coloured and fluid; in others, again; it is black, coagulated, and is passed in large portions. The taste of the blood ejected is bitter or acid. The discharge takes place generally several times in the course of the day, sometimes at intervals of several days, and is frequently brought on by food or drink taken during the intervals. Lancinating pains in the region of the spleen, great debility, restlessness, and fainting fits, are the common symptoms, where the attacks follow each other in rapid succession. Where the extravasated blood finds its way also into the alimentary canal, it is passed during vomiting by anus, or discharged subsequently by the same passage with colicky pains.

The treatment of this affection presents great difficulties. The chief point is to avert the next attack, which we must always dread as fatal. The patient should, for this purpose, lie with his head very much raised, and be kept at perfect rest: for talking, or even the slightest movement, may cause the return of the checked hæmorrhage. A large cold bandage must be placed upon his stomach, and renewed frequently, if symptoms of vomiting present themselves. Cold water must also be frequently administered to the patient with a spoon, and he should take warm hand and foot-baths, which should be kept of an equal temperature by adding hot water to the bath. The duration of these baths must be determined by the urgency of the symptoms. Where with all these means we cannot attain our end, our attention must be directed to the alimentary canal, and we must resort to clysters. If these derivatives

fail, we must convey the patient cautiously to a sitting-bath, which should not be very deep, and we should leave him in the water as long as it acts beneficially upon him, and produces no great inconvenience. These baths, however, should only be resorted to in cases of extreme necessity, because the sitting posture is exceedingly inconvenient to the patient, and causes restlessness.

When we have thus succeeded in arresting the hæmorrhage, we should endeavour to remove the exciting cause, in cases where we could not take that step before. Suppressed hæmorrhoids and menstruation, must be reproduced in the manner already described, receded eruptions also; for unless these measures be adopted, the patient cannot be restored to permanent health.

To prevent relapse, the patient must restrict himself after vomiting, to a very rigid diet; his food should consist of vegetable preparations in a semi-fluid state, and of these he should partake in small quantities at a time, and frequently; but never in sufficient quantity to feel perfectly satisfied. The chief point remains to keep the bowels open by means of lavements, even many weeks after the cessation of hæmorrhage. Where stimulating food and spirituous liquors were the cause of the disease, the patients must ever avoid these noxious ingesta. The patient should by no means neglect to wear bandages round the body, not only after vomiting, but he should continue to wear them for some time; the same applies to the internal use of cold water, to which he must adhere, to prevent future attacks.

Uterine flooding (*Hæmorrhagia.*)

By this denomination we include every unnatural discharge of blood from the uterus, whether impregnated or unimpregnated, or even where bleeding occurs in the unmarried. The blood voided (if we except the menstrual

and puerperal discharges) is generally acrid, bright red, or aqueous, or sanious, sometimes coagulated; it is either fetid or odourless. A discharge taking place during pregnancy, is usually followed by abortion. The causes producing these discharges are very variable, as: enervating education, a sedentary life during the period of growth, sexual precocity, masturbation, the abuse of spirituous liquors, powerful stimulants and amenegogues, immoderate exercise, running and dancing, &c. During pregnancy many other causes may be added, as the exertion of lifting or carrying heavy weights, the violent mechanical influence of pressure or blows on the abdomen, of violent coughing, vomiting, and convulsion; further, severe fever, unnatural labours, and various lesions or injuries of the uterus.

Not less variable than the causes of uterine hæmorrhage, are the symptoms by which it is accompanied; they are; viz., excitement, bearing down towards the organs of generation, pain in the back, inclination to pass water, constipation, changes from heat to cold, sense of heaviness in the head, vertigo, nausea, vomiting, difficulty of breathing, palpitation, &c.

The treatment of these unnatural discharges (excepting the menstrual and puerperal discharge) cannot be guided by definite rules. We should in the first place take the exciting cause, the prevalent symptoms, and the constitution of the patient into consideration. We must endeavour to allay the excitement of the nervous system, by ablutions of the whole body with cold water, by exercise in the open air, and moderate potations. If the discharge itself will not yield to a well-regulated regimen, and to the use of water as above mentioned, we may endeavour to moderate it by sitting-baths, at 59° of Fahrenheit, in which the patient remains for a quarter of an hour twice

daily, and by bandages round her body; the latter are to be used by day and night in summer: in winter, the bandages must be secured by dry girths to prevent colds.

If the excitement be accompanied by febrile symptoms, we must use the wet sheet once daily as long as the fever continues; at the same time we should maintain the regularity of the functions of the bowel, and keep the patient from all exercise or exertion which might fatigue her or convey a shock to her frame.

In cases of copious flooding, the patients must remain in bed, and keep themselves very quiet; they should drink cold water frequently, and in small doses, and wear a cooling application round the whole abdomen. Where the hæmorrhage does not cease, or increases even after a continuance of this treatment, we must resort to the use of cold injections into the vagina, and of cold applications to the genital organs. If the injections produce convulsion, we may conclude that the temperature of the water is too low, and we must either augment it by several degrees, or discontinue these remedies altogether, and confine ourselves to the other modes of proceeding. In the employment of injections, caution is very necessary, especially as regards temperature, for they may produce various nervous affections; it is better, therefore, to begin with water of a moderate temperature, and to proceed by degrees to the use of cold water.

Convulsions attending uterine hæmorrhage, we should endeavour to allay by friction, or by the application of warming bandages. Where both these remedies are unsuccessful, we must place the patient in the blanket, and allow her to perspire moderately, applying a simple well-wrung bandage, before we envelop her, to the parts chiefly affected with convulsions. On the cessation of the convulsions, we must remove the patient from the envelopment, and wash her with moderately cold water.

Hæmorrhage occurring during pregnancy, demands the most perfect rest, not only in order to prevent the discharge of blood, but to guard against premature labour. Where circumstances favour the probability of such an occurrence, it is advisable to enjoin the strictest quietude betimes; and if cold bandages to the abdomen will not suffice alone to check hæmorrhage, the patient should place the soles of her feet in cold water at 41° to 44° of Fahrenheit. This treatment is frequently very beneficial, and exceedingly rapid in its effects. Where all these means fail in arresting the discharge, we may pour cold water from a height of several feet on the abdomen, not confining the stream to one spot, but changing the locality on which it falls; thus traversing the whole abdomen with the stream. The patient must of course be placed during this process, on a straw mattress, whence she must be cautiously removed after the affusion. Every exertion or movement which is not absolutely necessary, should be avoided, and every thing which might discompose the patient. Cold affusion is not admissible in cases attended with convulsions, or with labour-pains, or where blood is discharged in large quantities, and at short intervals.

Immoderate menstruation in married and unmarried women, we must endeavour to check by the mode of treatment first mentioned. It is only where this does not suffice, that we are called upon to proceed to the use of the latter remedies, selecting those which appear best adapted to the case.

In the after-treatment, cold ablutions, moderate potations, and the occasional employment of a wet bandage round the body, will suffice to complete the cure. Where the patients suffer from the effects of loss of blood (*anæmia*,) they should take nutritious food; but by no means should the alimentary substances be stimulating.

Mucous discharges.

By the term mucous discharge, in general, we understand an unnatural secretion and excretion of morbid mucus in any part of the body. The cause of this functional disturbance is either of a local nature, or the disease is dependent on constitutional derangement. The course of the affection is very variable, depending on the disease with which it is complicated. The character of the mucus discharged varies also; being sometimes thin and aqueous, sometimes thick and transparent. In colour it may be white, yellow, greenish, bluish, grey, with a black or red tinge. The discharge is often bland and odourless, often again acrid and fetid; at times pure, at times mixed with blood or pus. Persons of relaxed fibre, weakly constitution, and phlegmatic temperament, are predisposed to mucous discharges; as also those who are debilitated by disease, and other causes, but more especially children and old people. Women are more subject to this complaint than men. The causes which produce these disturbances are manifold; amongst the chief causes may be reckoned: a sedentary life, neglect of exercise, depressing mental emotions, prevalence of wet weather, abode in low, dark, impure residences, &c. I will begin the series with

Immoderate accumulation of mucus in the stomach and alimentary canal.

It is distinguished from mucous fever only by the absence of all febrile disturbance, the mildness of the symptoms, and the longer duration of the affection. Children and old persons, whose digestion has been impaired by previous disease or by other causes, are the chief sufferers. This inconvenience presents itself with loss of appetite, with a faint sickly taste, copious secretion of viscid saliva, with a white thickly furred tongue, and deposition of the same se-

cretion in the cavity of the mouth, with costiveness, pale-coloured motions, and pale cloudy mucous urine. In addition to these symptoms, a troublesome sensation of emptiness, combined with anxiety, alternates with a sensation of fulness, especially after eating.

The causes of this morbid state of body are, indulgence in indigestible tenacious food; unhealthy residences; loss of fluids; sedentary life; depression, or grief.

The treatment, although simple, must be brought into operation with activity. Immediately after rising, an ablution of the whole body with cold water must be performed, followed by exercise in the open air, and by potations of several glasses of cold water before breakfast: for children, one or two glasses will suffice; persons of more advanced age will have to take three to five glasses. An hour before breakfast, and again three hours before dinner, as also during this meal, the patient should drink cold water; as much, in fact, as he can bear without inconvenience. This order must be strictly obeyed during the first days of the treatment, to clear the stomach and alimentary canal of impurities accumulated in these viscera. Clysters will be found a useful auxiliary, and will materially expedite the evacuation of crudities.

When the digestive apparatus is thoroughly cleared out, the use of cold water internally may be somewhat moderated; but the patient should wear well wrung bandages round the body for several hours by night and day, and should take daily two sitting-baths from eight to ten minutes' duration, in order to change the character of the action of the organs of digestion—to increase their activity, and to give them more tone. Regularity in diet is a chief consideration. The aliments should consist rather of solid and animal food than of vegetable or fluid substances. Pure air is quite as essential. The patients must quit their damp

residence, or contrive to render it dry; for if they neglect the observation of this rule, they will soon relapse into the former state.

Salivation.

We will not on this occasion treat of that form of increased secretion of saliva which is brought on by taking mercury in large quantities; but we will mention casually the increased flow of saliva observed after colds or a protracted exposure of the skin to the influence of wet weather.

The symptoms are those common to catarrhs. The mouth of the patient is continually filled with water, which is secreted so rapidly that several pounds may be evacuated in the course of the day. The mucus is at first viscid, and mixed with saliva; subsequently it becomes thicker and more opaque, and assumes a peculiar sweetish taste. The patient complains of a sensation of dryness in the throat, his voice is hoarse, and his thirst is excessive.

The treatment is very simple. The patient should drink cold water moderately, and wash his mouth frequently with the same fluid. The activity of the skin must be restored by wrapping the patient daily in a wet sheet, leaving him there to perspire. This envelopment is to be followed by ablutions or baths of moderately cold water. All external applications, ablutions, and baths, should be very cold and of short duration, in order to stimulate the skin slightly, to increase its tone, and render it more fit for the performance of its functions. External applications must be discontinued when they have fulfilled their object; for the operation of these agents for a length of time would be too stimulating to the skin. The bowels must be kept regular by clysters. The diet should be nutritious, but not stimulating, and all food is to be avoided which requires much mastication, as, by this process, the flow of saliva might be increased, or brought on again where it had already ceased.

Gonorrhœa.

By this term a variety of discharges from the organs of generation are understood; many of which do not deserve the appellation, although we must admit of several varieties of this disease. For the instruction of the non-professional reader we will confine ourselves to three forms, namely, to the benign or simple, the virulent or the venereal gonorrhœa, and gleet.

Simple gonorrhœa is denoted by the discharge of a mucous, viscid, opaque, bland, odourless fluid, which at a later period becomes acrid, causing an itching and burning sensation in the parts. If this discharge continue for a long time, weariness, pain in the head, back, and sacrum, loss of appetite, impaired digestion, ensue; lassitude, tremor, palpitation, dulness of the eyes, which are surrounded by a dark ring, and dark spots upon the eyelids then appear, as the consequences of this waste of fluids. In the later stage of the disease, slow fever, with dry cough and complete consumption, are developed, which may prove fatal.

The treatment of this disease must tend to invigorate the organs affected, and, in fact, to strengthen the whole body. This is the more necessary where the disease has made rapid progress. In slight cases the patients should perform an ablution of the whole body every morning with cold water, and wash the organs of generation several times in the course of the day. They must further take a sitting-bath of ten minutes' duration an hour before dinner, and again an hour before going to bed; and should drink nothing but cold water in moderate doses, say about ten glasses daily. Exercise in the open air should be strictly enjoined, and the patients must sleep on a hair mattress, under light covering—by no means on feather beds.

The second form of this disease, venereal gonorrhœa, ap-

pears in the course of twenty-four, or, more frequently, of forty-eight hours, after impure coition: in rare cases it may not, however, show itself before the fourth or fifth day. The patients experience at first but a slight itching in the urethra, which soon becomes more troublesome, and even painful. The orifice of the urethra is reddened, and somewhat swelled, and the secretion from its mucous membrane is of a thicker consistence than is natural, and mostly obstructs that passage.

After a short continuation of these symptoms, the heat and pain increase, the urethra becomes inflamed, and the urine passes with a scalding sensation, either by drops or in a full stream. The natural discharge of that passage is considerably altered in character; it is passed in great quantities, becomes of a greenish yellow colour, resembling pus, or it is dark red, with a blackish tint, and with a peculiar odour, (*virulent clap.*) To these symptoms are added many painful affections; painful erections, chordee, &c.

The treatment of venereal gonorrhœa differs slightly from that required for the cure of the simple form of the disease. In virulent cases the patients must sweat for an hour every morning, or at least every other morning, and perform an ablution with chilled water on leaving the envelopment, or take a tepid bath for a short time. The patient should clothe himself warmly in accordance with the season and with his own sensations; he must drink from ten to twelve glasses of cold water daily, whilst taking exercise in the open air. In addition to these hygienic measures, he must take two or three sitting-baths at 68° to 73° Fahrenheit daily, remaining in each bath during a quarter of an hour; and in the later stages of the disease, or in obstinate cases, prolong its duration to the term of half an hour. He should restrict himself to a scanty vegetable diet, and drink water and milk only.

By this simple proceeding we shall succeed in curing most cases of this disease within three or six weeks; nor need we fear the occurrence of troublesome sequences. Where the disease, however, has made considerable progress, this treatment will not suffice, and alterations will be required, according to the various symptoms.

Where gonorrhœa is accompanied by febrile disturbance, the wet sheets must be brought into use, and are to be followed by moderately cold ablutions or baths, until the fever has abated or has ceased entirely. The degree of fever must be our guide for the change and continuation of the envelopment; a repetition in the use of these auxiliaries, however, is seldom necessary in these cases. Constipation must be combated by clysters. Swelling of the penis should be allayed by warming bandages, and moderately cold baths. In every case it is advisable that the patient should wear a suspensory bandage and cold applications, (umschläge,) which must not be frequently changed. The application of these bandages, combined with a scanty diet, will be found the best means of preventing painful nocturnal erections.

Swelling of the prepuce and scrotum will require copious perspiration; the patient should, therefore, in these cases, sweat for one hour or for several hours every morning. He should keep his bed and perspire moderately during the whole day. Diaphoresis will be best brought about by drinking cold water copiously.

A moderate discharge of blood from the urethra is beneficial to the patient, and must by no means be checked. It is only in cases where the bleeding is sufficiently violent to weaken the patient, that we should endeavour to stop it by repeated cold bandages applied to the organs of generation.

Retention of urine must be met with tepid sitting baths. If the patients cannot pass water within half an hour, (the

period they remain in the bath,) the sitting-baths should alternate with cold foot-baths, the soles of the feet being merely immersed into the water. Where this treatment is ineffective, and the danger increases, the catheter must be brought into application; but this operation should be delayed as long as possible, especially if the urethra be inflamed; for a precipitate use of instruments will cause irritation or injury to the mucous membrane of the urethra, and may lay the foundation for future strictures, or other severe disturbances of the passage.

Gleet is the sequel of gonorrhœa. The discharge from the urethra continues; it is, however, of a darker colour, thicker, and is secreted in greater quantity than during the primary disease. These symptoms are especially observed after indulgences in spirituous liquors, and frequently disappear suddenly with the observation of a more rigid diet. The pain and heat experienced at the time of making water disappear, together with all other inconveniences, and recur merely after errors of diet, as after the indulgence in coffee, wine, &c.

During the treatment of this disease, it is very necessary to examine the urethra for the presence of stricture, which is a frequent complication. Where a stricture is present, the discharge is glairy, and we have then no longer to treat the gleet. Even if the orifice of the urethra appears swelled, and the passage of urine be attended with pain, our treatment must be directed to the removal of the stricture alone.

A rigid regimen is imperatively necessary in the treatment of gleet. Where the patients have not the firmness and perseverance to adhere scrupulously to strict dietetic rules, it is better not to undertake the treatment of the case, because it is impossible to effect a cure unless the patients aid our operations by a strict observance of diet. The food must consist of vegetable substances, of a mild, anti-

plogistic nature. The beverage should consist of cold water, of which fifteen to seventeen glasses may be taken daily. Continence is imperative. The patient may take two sitting-baths, at 59° to 64°, daily, remaining about twenty minutes in the water each time. Where we observe, after the lapse of some time, that this treatment will not suffice, we may proceed to the use of injections, thrown into the urethra three or four times a day. The patient himself must determine upon the temperature of the water to be injected. Cold water would act as a stimulant; but the water should not be too warm. The patient must wear warming bandages on the scrotum and perineum; and where the disease resists all these remedies, he must sweat twice a week, taking a bath after each envelopment.

The temperature of the sitting-baths should, in all the forms of gonôrrhœa, be reduced in a ratio corresponding with the decrease of the discharge, so that with the total disappearance of the running, perfectly cold water may be used, to invigorate the relaxed organs.

In cases of gleet, colds and other circumstances, which stop the discharge suddenly, may give rise to various evil consequences. I had frequent opportunities of making this observation at Freywaldau, especially after balls, when the patients had spent the night in dancing and excitement, and, anxious to continue the cure, had taken cold-sitting-baths on their return, wishing to sleep during the greater part of the following day. On the next morning many were ill or lame, could not leave their beds, on account of swelled testicles, determination of blood to the head or chest, pain in the back, retention of urine, &c.

More injurious are these disturbances in primary cases, if we cannot re-establish the discharge. I could enumerate many instances where the consequences were very alarming, if I had the permission to publish them. Medical men,

who wish to gain experience in these cases, will find many opportunities at Grafenberg: they may see, in a very short time, remarkable depositions, metastatic affections of various organs, and other sequences of gonorrhœa, which the numerous patients have brought upon themselves by excesses or by exaggeration of the water-cure. They will meet, also, with many malcontents who frequently complain that they have been under treatment for a whole year, and have made no progress towards recovery. A stranger, unacquainted with the mode of life of these murmurers, would form a very unfavourable opinion of the hydropathic mode of treatment. Let him, however, accompany one of these patients in their ordinary amusements, especially to the balls in winter time; let him see how they live, and eat and drink; and he will soon be convinced of the cause of this want of success, and will understand the reason why the cure is protracted, and why many patients leave the establishment without even temporary relief.

Leucorrhœa.

A discharge takes place from the organs of generation of women affected with this disease. The secretion passes at times away by drops, and occasionally in such quantities that the patients are forced to change their linen several times in the course of the day. At first the morbid secretion is bland, transparent and odourless; subsequently it becomes opaque, greenish, and fetid, and assumes an acrid character, excoriating the inner part of the thighs. This bland discharge is at first not infectious; but it may subsequently become as virulent in its nature as the discharge of venereal gonorrhœa. When the disease has progressed considerably, its symptoms are not confined to a morbid secretion from the vagina, but all the uterine functions are

disturbed, and various other symptoms make their appearance. The first of these is pain in the back and limbs; which is soon followed by general debility, irritability of temper, a pale and bloated countenance, disturbances of the digestive organs and of the functions of the bowels, nausea, and swelling of the abdomen. Menstruation now becomes interrupted, appearing too early or in too great a quantity (perhaps every fortnight,) and the discharge has not the appearance of blood, but consists of a sanious fluid. At last fever supervenes, with gradual sinking, unless the progress of the disease can be arrested.

Persons of scrofulous diathesis, and those who are subject to colds, are predisposed to this disease; and it requires merely some exciting cause, such as a sedentary life, or irritation of the organs of generation, to bring on an attack.

It is necessary, in the treatment of this disease, to inquire strictly into the primary cause, which may be suppressed perspiration of the feet, or suppressed cuticular eruption. If these cannot be re-produced, all our endeavours to restore the patient to health will be fruitless. If we succeed in our object—as, also, if no such cause exist—the treatment recommended for simple gonorrhœa must be pursued; to which we may add frequent injections into the vagina, and the application of wet pledgets of lint into that passage. Exercise in the open air, sleeping on hair mattresses under light covering, and copious potations of cold water, are as essential in this case as in the former affection.

Where the disease has made considerable progress, and the inner part of the thigh is the seat of excoriations, the patients must wear wet short linen drawers fitting closely to the skin. In winter, or in cold weather, it will be necessary to cover these wet applications with dry drawers, to prevent the access of the cold air.

Where copious potations of cold water will not suffice

to regulate the functions of the digestive organs, we must resort to bandages round the abdomen, and even to clysters.

At the commencement of the disease, whilst the general health is but slightly impaired, the diet must be simple, and should consist of vegetable food. In the later course of the disease, on the other hand, when the patients are debilitated, the food, though not stimulating, must be nutritious and strengthening.

The venereal form of the disease must be treated on the same plan as gonorrhœa. Wet pledgets of lint introduced into the vagina, and frequent injections with the female syringe, must supply the place of cold bandages which we apply to the organs of generation in the male.

River-baths deserve especial recommendation in these cases, in summer in particular. Their operation is of so much benefit in all forms of discharge, that they cannot be replaced by any other hydropathic remedy. Where the opportunity presents itself, the patient should take one of these baths three times a day, remaining from eight to ten minutes in each bath.

Seminal discharge.

By this denomination we understand involuntary nocturnal emissions, and those which occur by day after every slight excitement, (*e. g.* after the contemplation of voluptuous objects,) as also emissions which take place without voluptuous ideas and without erection, whilst the patient is evacuating the bowels, or whilst he is walking or riding.

The ill effect of the loss of a fluid of so much importance as the semen, is too well known. The chief consequences are,—impaired sensibility, impotence, paralysis, *tabes dorsalis*, epilepsy, and various diseases of the digestive organs. The exciting cause of these morbid symptoms are,—onan-

ism, excesses in venery, the use of diuretics and aphrodisaics, the presence of worms and gastric impurities in the intestinal canal. Where the disease has existed for some time, and symptoms of nervous affections appear, we have slight hopes of affording relief to the unfortunate patients, or of effecting a cure.

In the treatment, our first attention must be directed to the exciting cause. Gastric impurities, or worms, must be removed by copious potations, bandages round the abdomen, by the use of clysters, and by the observance of a strict regimen and of a rigid diet. The patient should sleep upon hard mattresses under light covering, and avoid reclining on his back; this we may prevent by fastening a large ball to the back of the patient by means of a girth, or by any other suitable contrivance, which will render it impossible for him to assume this injurious posture. Individuals addicted to masturbation, should sleep under the surveillance of a trustworthy person. Where this is impracticable, the patient's hands should at least be fastened to the sides of his body, by means of a strap. Boys who are not under the immediate observation of the medical man, should be watched during the whole day, and kept carefully from every kind of bodily or mental excitement. Adults who will not adhere to these essential rules, must expect as little relief from the water-cure as from any other system of treatment.

In addition to a strict observance of the foregoing rules, the patients must wash the whole body every morning, and the organs of generation several times in the course of the day with cold water. Their beverage must consist of nothing but cold water, which they must drink in moderate quantities—eight to ten glasses in the course of the day—taking at the same time much exercise in the open air; they must also take two or three sitting-baths daily, but

never immediately before retiring to bed; for this practice would produce nocturnal emissions. During the day, the patients should wear well-wrung bandages round the pelvis and scrotum, but by no means continue the use of them during the night, because they generate heat, thus act as stimulants, and excite the passions.

The food should be nutritious, but on no account stimulating, and should be free from every ingredient which might excite the organs of generation; the patients must therefore avoid eggs, &c. They must on no account eat or drink immediately before bed-time; but should partake of a scanty supper, at least three or four hours before retiring to rest, or it would be perhaps better to omit this meal altogether.

By the water-cure, if judiciously conducted, we shall be able to restore many patients to health, or at least we shall have more chance of benefiting them by hydropathy than by any other treatment; provided we obviate such causes as it is in our power to remove, and provided the patients will co-operate with us as regards the observance of the necessary regimen.

Diarrhœa.

By this denomination we understand a variety of forms of frequent loose evacuations by the anus. Slight diarrhœa is of little moment, and under certain circumstances it is even highly beneficial, *e. g.* in diseases brought on by the operation of noxious extraneous agents, or in many constitutions where it is critical, or appears as a remedial effort of nature. The affection consists of a frequent and rapid evacuation of morbid fluids per anus, with or without fæces, and is frequently attended with pain and fever. In simple diarrhœa, the patients experience a sense of oppression in the abdomen, which is rarely tympanitic or

painful; they are also troubled with griping pain, which subsequently becomes burning or lancinating in the region of the navel. Evacuations follow in a short time, and mucus is discharged, which is more or less discoloured. The more frequent the motions, the more urgent becomes the thirst. A slight rigor, followed by heat, is next felt, and the skin then becomes hot and dry.

Where the diarrhœa is not of this simple character, where bilious, sanious impurities, varying in colour, are voided, the disease is attended by other symptoms. Sometimes the motions are only passed at night or in the morning, at other times both by day and night, every quarter or half hour, and the evacuation is accompanied by vomiting. In violent protracted cases of diarrhœa, a burning sensation is experienced at the anus, a desire to evacuate the bowels continually, attended with great pain, (*tormina* and *tenesmus*,) which is followed by great debility, and even by syncope.

Diarrhœa sometimes depends upon debility, or on morbid irritability of the digestive organs. The exciting causes are—errors of diet, either in quantity or quality of the food, as unripe food, acrid, fatty, oleaginous, acid, or deteriorated aliments; further, colds, anger, and anxiety; fright may also bring on the attack.

If a simple attack of indigestion be the cause of diarrhœa, the patient must place himself beyond the influence of this injurious cause, and should drink several glasses of cold water successively, to clear the stomach and alimentary canal as soon as possible of the impurities present. If the protracted use of cold water internally be alone inadequate to the purpose, we must have recourse to the assistance of clysters and bandages round the abdomen. The patients should fast for a time, and should at first confine themselves to mucilaginous and digestible sub-

stances, taking less food than is necessary to satisfy hunger.

In cases of diarrhœa brought on by colds, our first endeavour must be to restore the activity of the skin, by the use of several applications of the wet sheets, to produce sweating—followed by ablutions. The patients should, at the same time, drink eight to ten glasses of cold water daily, wear warming bandages round the body, and take as much exercise as possible in the open air. Similar treatment will be necessary where the disease owes its origin to mental emotions; but in these cases we must be careful to guard the patients against catarrhs, to which there is a great tendency, as long as the disease prevails.

Diarrhœa, originating in errors of diet, (*e. g.*, after eating acrid substances,) in which case the intestines may be totally deprived of their lubricating mucus, and blood may pass away with the evacuations, requires, besides the moderate use of cold water internally, mucilaginous drinks and lavements, to render the acrid substances less active. For this purpose flour of starch, oatmeal, barley-water, gruel, &c., are to be recommended. In fact, the patient must be confined for some time to a mucilaginous diet exclusively. The body should be well covered by warming bandages, and the feet must be guarded from the effects of cold to prevent relapse.

Where a certain predisposition to this disease, or debility of the digestive organs, is the cause of the frequent recurrence of diarrhœa, the patients should after recovery wash the stomach and abdomen frequently with cold water, take sitting-baths of short duration, make use of lavements, and adhere to cold water solely as a beverage, to invigorate the digestive appara'us.

Cholera.

We distinguish two varieties of this disease, viz., the European and the Asiatic cholera. The former is known to us as a disease arising from various causes, of which errors of diet are the most frequent. The attack is ushered in by premonitory symptoms, which frequently show themselves eighteen or twenty hours previous to the actual accession. The patients complain of general weariness; flatulency; nausea; fetid, bitter, or acid eructations; a sense of oppression and uneasiness in the stomach, which subsequently changes to attacks of colicky pains in the abdomen, and increases even to retching. Shortly after this, vomiting ensues, attended with diarrhœa. The vomiting recurs at short intervals: at first the ingesta are ejected; subsequently, bilious fluids, varying in colour, of an acrid nature, and of offensive odour, are voided, mixed with mucus or sometimes with blood; with these attacks the uneasiness, burning, and colicky pains in the abdomen increase. If these disturbances continue for some time, and increase in violence, the strength of the patient declines rapidly; the pulse becomes very weak, and scarcely perceptible; the features fall, the countenance becomes pale and distorted; the body is covered by a clammy, cold perspiration; the nails are blue; spasmodic contractions are observed in various limbs; fainting is even added, and the disease terminates generally on the third or fourth day, with total exhaustion, apoplexy, or mortification of the intestines, in death. In a less severe case, where the disease is not fatal, recovery takes place with critical deposits in the urine, or with critical perspiration.

The Asiatic cholera differs from the former variety of this disease in these points: the voice of the patient becomes peculiarly hoarse; paralysis quickly makes its ap-

pearance; the evacuations are totally deficient in bile. The difference is more particularly marked by the circumstance that Asiatic cholera will attack whole families, and frequently all the inhabitants of the same house, without appreciable cause. All the attendant symptoms are, moreover, far more severe. At times the Asiatic form of this disease is so rapid in its course, that we can scarcely distinguish the transition of the one stage to the other, and it, lastly, causes death more rapidly than the common European cholera.

This fearful disease generally appears suddenly, without premonitory symptoms. The patients sometimes, without other inconvenience, pass watery motions, attended by vomiting of a whitish fluid; the latter symptom may, however, be wanting. The disease always attains a great height in a very short time, and is attended with rapid sinking, with whatever symptoms it may be accompanied. The patients complain of violent burning heat in the stomach; the evacuations follow each other in rapid succession; the anxiety and restlessness increase; the countenance is indicative of these emotions, becomes very soon distorted, and falls. If cramp be not already present, it presents itself in the further course of the disease; it generally commences at the toes or calf of the leg, extends thence to the remainder of the body, and greatly augments the anxiety and uneasiness of the patient, especially when it attacks the chest, and gives rise to difficulty of breathing (*dyspnœa*).

When the disease has progressed thus far, the surface of the body becomes cold; the nails become blue, and shrink; the tongue becomes cold; the pulse ceases, or is hardly perceptible; the skin is contracted into folds, and is especially shrivelled about the hands and feet. With these symptoms, and with the signs of total exhaustion and indifference, the patient gradually sinks and expires.

The prognosis in Asiatic cholera is very unfavourable; its course is very rapid, and death may ensue in a few hours. In rare cases the fatal termination may be retarded to the fifth or sixth day, when the patient falls a victim to the sequences. Where the disease terminates favourably, recovery takes place with critical diaphoresis and diuresis.

Medical men differ more materially in their views of the treatment of Asiatic cholera than of any other disorder; we find, therefore, up to the present day, the most contradictory opinions as to the treatment of this disease, especially amongst allopathic practitioners. Hydropathists, although but few in number, are divided in their opinions respecting this form of diarrhœa. Amongst homœopathists we meet, perhaps, with the most consistency as regards the remedies they employ in the treatment of cholera. Dr. Oertel, at the head of the hydropathists, assures us that he will not only wash the cholera out of the body of the patient by the immoderate use of cold water, according to his usual exaggerated plan of treatment, but he asserts that he will entirely exterminate the disease itself; whilst Priessnitz advises to restore reaction by the use of sitting-baths, and by friction of the hands and feet, where the disease has made sufficient progress to cause a deficiency of vascular activity.

That cholera patients may recover to a certain extent with this treatment cannot be doubted; for experience has frequently proved that individuals who have refused all medical aid, have been restored to health by copious potations of cold water alone. I do not know whether Oertel and Priessnitz themselves may ever have treated cases of cholera; but be that as it may, their treatment appears to me not sufficiently active to raise the sinking powers, and to stimulate the paralyzed nerves to activity, in those impor-

tant moments where the vital power of nature is sinking rapidly.

In this respect the treatment of cholera proposed by Dr. Caspari deserves the preference, although it is not adequate to all cases. His treatment is based upon the theory, that the disease consists in a suppression of the vitality of the organ of the skin. The patient, according to his proposition, is placed in an empty bathing-vat, and subjected to affusion, where the skin is dry and shrivelled; but where the skin, on the other hand, is soft and moist, or covered with clammy perspiration, he is immersed in a bath filled with tepid water of 93° Fahrenheit, until it reaches above the umbilicus; and an attendant at either side of the bath holds the patient. Whilst the patient is in this position, four or five buckets of ice-cold water (if a child, one or two) are poured from vessels over his head, chest, and back. In very rare cases only reaction does not take place: the more active the reaction, the more beneficial it will be. At the time of this sturz-bath, a person, standing at a distance of several feet from the foot of the bath, throws ice-cold water with some force from a vessel horizontally on the chest and stomach of the patient. The quantity of water used in the latter affusion is one bucket for children, two buckets for adults. The operation of douche and affusion must be conducted with celerity, and is to be repeated every two or four hours, according to the severity of the case. Caspari has often made use of these applications more than twenty times in the course of sixty hours.

After the bath, the patient is conveyed to bed, and covered with blankets, underneath which very cold wet bandages are extended as far as possible over the chest and abdomen, and are frequently repeated. The skin is rapidly excited to activity by these applications; and the bandages become gradually, but perceptibly warmer. The breast of women

who are suckling is left uncovered. At the same time the head is covered with cold bandages; they are the best preventives of typhus, which frequently occurs after cholera. The feet, lastly, are wrapped in woollen cloths, dipped into hot water, to act as derivatives, and to prevent the spasmodic contractions of the muscles of the calf. Caspari sometimes used foot-baths of water, to which sulphuric acid was added, twice daily, extending to the knee. These cold and hot fomentations are continued without intermission two, three, and four days and nights, according to circumstances, until the pulse returns, the small weak pulsation of the artery becomes more full and strong, and the blue or violet tinge of the skin disappears. With the treatment mentioned, potations of cold water or of cold beer are combined. Warm infusions of tea suffice in slight attacks, and where the symptoms are merely premonitory, to stimulate the skin to critical diaphoresis; but the case is very different in the more advanced stage of the disease. Caspari employs cold also in the form of lavements, of which one or two are given daily, consisting of equal parts of water and vinegar, to which sometimes half a table-spoonful of common salt is added. These injections he employs especially when the evacuations are checked, and the abdomen feels elastic or crackling, and resembles emphysematous skin to the touch. Caspari by no means pursues this treatment to its full extent in all cases of cholera, but alters it according to the prominent symptoms, to the severity of the disease, and to the strength and constitution of the patient. Symptoms, however, are his chief guides. The use of cold water as a powerful shock produced the most benefit in cases of cholera, complicated with asphyxia. Patients who appeared destined to sink were frequently restored to life and health by cold affusion.

I can, from my own experience, confirm the safety and

certainty of the foregoing treatment of the Asiatic cholera; but it is much to be lamented that the members of the patients' families will not always give their consent to proceedings, appearing to them formidable, before all hopes of saving the patient have passed. It is indeed remarkable that the more severe the shock produced by cold water the more quickly re-action ensues. The only caution necessary is not to protract the affusions or sturz-baths for a long time. The whole process should be completed in one minute at the utmost: this caution must be the less neglected, the more urgent the danger; for after protracted affusion re-action will not take place for several hours, and in this space of time the disease might terminate fatally. Affusions, therefore, of short duration, and frequently repeated where the symptoms demand a repetition, deserve the preference. A modification in the use of the ice-cold bandages round the chest and abdomen, and in the frequency of repetition, is sometimes required. Where the whole surface of the body is cold, they impede the action of the skin, which is so necessary, and should be brought about as soon as possible. In these cases I have the patients briskly brushed by several persons, immediately after the sturz-bath, and enveloped in warm blankets, by which plan of treatment the vascular action of the skin is more rapidly produced, and extends more generally over the body. Where a certain degree of heat is perceptible on the surface of the body, and the patients complain of insufferable burning pain in the stomach and bowels, the bandages are certainly of great benefit; but they should only be applied whilst this very troublesome sensation continues, and should be combined, moreover, with potations. When the suffering is allayed, we must immediately proceed to the treatment necessary for the production of perspiration. The addition of sulphuric acid to the foot-baths, and of vinegar

and salt to the lavements, is quite unnecessary. By maintaining a uniform temperature, by using clysters of simple and unalloyed water if the evacuations be checked, we may attain our end perfectly.

The warm infusions of tea recommended in slight cases are quite superfluous; for success is certain, if we allow the patients to drink cold water freely, and wrap them in the envelopment of the wet sheet, where the skin is hot and dry; but, where cold is experienced, in the blanket. During the period of the encasement, the potations must be somewhat limited, in order that the patients may perspire quickly. They should remain in the envelopment for a long time, unless disturbed by urgent necessity to evacuate the bowels, &c. The ablution, which is to be performed after sweating, must be of short duration, and the water used should be cold. If the patients feel indisposed, or if the weather be cold and wet, they should retire to bed after washing, and keep up regular diaphoresis. It is, in fact, necessary to pay the greatest attention to this point, as an interruption of the action of the skin is exceedingly dangerous, and may prove suddenly fatal; and, secondly, because critical perspiration and critical secretion of urine alone can modify the disease, and lead to perfect recovery.

Where we observe premonitory symptoms of cramp, or if single muscles are already spasmodically contracted, we must rub the parts affected, for some time, with the hands dipped frequently into cold water, and afterwards apply warming bandages to them. Continued nausea requires repeated potations of cold water, in order to bring on vomiting, and to render the act more rapid and less tedious to the patient.

Potations of cold water and injections are practicable in most cases of cholera; they diminish immoderate evacuation, or facilitate the discharge of fæces, if the action of

the bowels be interrupted. In some few exceptions they increase the number and quantity of the motions. The first or second injection may occasionally have this effect, but afterwards the clysters will cease to operate in this manner: we should not, therefore, be readily deterred from the use of these auxiliaries, or discontinue them, until we are quite sure that they increase the number of stools.

In the treatment of European cholera we may be guided by the same rules of practice laid down for cases of Asiatic cholera, attending, of course, properly to the nature and symptoms of the disease. Our chief consideration should be directed to the modification of the irritability, and spasmodic action of the intestinal canal. The best plan of treatment we can pursue is, to allow the patients to drink a large quantity of cold water at the commencement of the attack, to remove gastric impurities as quickly as possible from the stomach and intestines. Having gained this point, the patient should take cold mucilaginous drinks, and clysters of the same character, and perspire in a woollen blanket, whilst warming bandages are applied to his back and abdomen. Our chief remedies are, the potations early in the attack, to clear the digestive apparatus, and afterwards sweating, adapted to the circumstances of the case. The further treatment which may be necessary we may infer from the rules of treatment to be followed in Asiatic cholera, which we have given more explicitly.

Whilst cholera is prevalent in a district, cold water will be found the best prophylactic, if it be indeed possible to avert the attacks of this formidable epidemic. Copious potations, a cold ablution night and morning, with exercise in the open air, and the strict observance of a judicious regimen, will be the best means of guarding against an accession. These hygienic rules should be strenuously observed during convalescence, both to guard against re-

lapse, and to prevent permanent organic lesions of the debilitated digestive organs, which might be the result of this disease. It is, moreover, advisable that the patient confine himself for some time, even after recovery, to a slightly nutritious vegetable dietary, which should not include very solid substances.

ON SUPPRESSED AND DEFECTIVE SECRETIONS AND EXCRETIONS.

The morbid state which we include under this denomination is opposed to that observed in the former series of diseases. The affections in question may consist either in a diminution or in total stoppage or suppression of the natural secretion and excretion; *i. e.* the quantity of fluids and substances secreted is too small, or they are entirely wanting: hence, the retention is either complete or partial. In the first case, the function of secretion or excretion is not performed at all; in the latter case, it is imperfectly performed. Either the excretory organs are themselves primarily diseased, or their functions are disturbed in consequence of constitutional derangement.

Suppression of, or irregularity in, the menstrual discharge (Amenorrhœa and Dysmenorrhœa.)

Menstruation frequently fails to appear at the usual age, without appreciable cause, in the unmarried; or the function is irregularly performed, or is totally suppressed where the discharge had already made its appearance. The latter observation applies to the married also. The causes of suppressed menstruation are manifold. A predisposition to this affection exists sometimes, more especially in women of phlegmatic temperament, and of debilitated constitutions; to this various exciting causes are added, as plethora, local

vascular congestion, various diseases, wasting of the fluids; spasmodic contraction; violent mental emotion, as—fear, anger, joy; lastly, the operation of certain medicines, and exposure of the feet to cold, &c.

It frequently happens that girls do not menstruate at the usual age, and are yet strong and healthy, and free from all indisposition. Under these circumstances, medical advice and assistance would be superfluous, as long as the health may be said to be perfect. But it will be necessary to proceed to the use of proper remedies as soon as one or the other of the following symptoms presents itself:—a feeling of general debility, congestion of individual organs; hence, a sensation of oppression and tension in the small of the back, of weight in the limbs, a sense of tightness in the chest, palpitation, derangement of digestion, defective nutrition of parts. Where these disturbances and inconveniences continue, consumption, chlorosis, jaundice, dropsy, hæmorrhoidal and nervous attacks may ensue; discharges of blood may take place from various parts,—from the nose, the ears, the breast, the navel, the anus, during the act of evacuating the bowels; or the patients may expectorate blood, or the perspiration may even become sanious. After sudden suppression of the menstrual discharge, convulsions, hæmorrhages, apoplexy, and paralysis may occur.

Where organic lesions are not the cause of amenorrhœa, or of irregularity in the appearance of the menstrual flux, hydropathic treatment is very certain to restore the regularity in the performance of this important function, provided attention be paid to the exciting cause of the disturbance. In cases of debility and languor, we must accustom the patients to the use of cold water in the form of copious potations, and to exercise in the open air, which must be gradually increased. Disturbances of the digestive organs should be combated by bandages round the

abdomen, and by clysters. To restore the natural action of the skin, the patients must wash the whole body every morning, and occasionally before going to bed, with cold water, and to regulate, or bring about the menstrual secretion, they must take two sitting-baths daily at 68° Fahrenheit, remaining half an hour in each bath.

If by this treatment we succeed in producing a discharge of blood by the natural passage, the sitting-baths must be remitted. During the period of menstruation they may be totally discontinued, if the function be regularly performed; for the protracted use of these baths will in itself give rise to an interruption of this natural process. Even cold ablutions of the whole body, or bandages round the abdomen, may cause irregularity in the performance of this function in women of very irritable habit of body.

Where the foregoing treatment is not successful, the patients must sweat twice or three times every week in the wet sheets, strictly observing the rules before mentioned in their full extent. Where the disease is yet obstinate, the patients must subject themselves to a slight douche every other day during five minutes, and continue the use of this remedy until the desired result is produced, namely, a shock, or stimulating effect, adequate to the purpose. Congestion of separate organs should be combated by cooling bandages, and by derivative foot-baths and sitting-baths. If the hands and feet continue cold for a long time, stimulating local baths and friction with horse-hair gloves are necessary. Receded eruption must be recalled to the surface. By thus properly attending to all collateral symptoms, we cannot fail to bring on menstruation, and to restore regularity in the performance of this function.

Where menstruation has ceased, we should, by the proper remedies, (paying due attention to the exciting cause,) restore the organs to their former activity. If mental

emotion or exposure to cold be the cause of the irregularity, the wet sheets must be brought into application once daily, the patient remaining in the envelopment until perspiration ensues. In addition to the moderately cold ablution which must follow the use of the wet envelopment, the patients must take two sitting-baths at 59° Fahrenheit, remaining a quarter of an hour in each bath; wear stimulating bandages round the body; strictly adhere to the foregoing hygienic rules; and avoid, as far as possible, the influence of the original cause of the disturbance.

Sudden suppression of the discharge during the period of menstruation we must endeavour to overcome by the envelopment in the blanket, by the application of warming bandages to the abdomen and back, followed by ablution and foot-baths, paying attention at the same time to the symptoms of congestion which may be present. One envelopment and two or three foot-baths daily, will generally suffice.

There are hydropathists who, admitting the beneficial operation of a judicious use of cold water in cases of suppressed or irregular menstruation, believe the most powerful applications of cold water innocuous during the menstrual period,—an opinion by which their practice is guided. Thus they will employ shocks, or the most stimulating applications of cold water, in diseases under treatment, even during the period of menstruation. Resting upon this hypothesis, they persevere in this absurd practice, estimating consistency of opinion above the welfare of their patients, notwithstanding the warnings of nature expressed by the suppression of the discharge, or by permanent irregularities in the performance of the function. Many of their patients are thus deprived of this natural and beneficial discharge, and have to contend with many diseases depending entirely on this cause during the remainder of their lives.

Constipation.

This disturbance of the functions of the bowels varies in extent. Sometimes it consists in torpidity merely, an evacuation taking place every second or third day; at other times the constipation is complete, and the bowels are never open, except with the assistance of purgatives. In the first case, the fæces are retained in the alimentary canal, and become indurated; in the latter case, there is a total interruption of the action of the bowels. Constipation is, in some individuals, of little importance; the evil consequences at least do not present themselves immediately: but this disturbance of the action of the bowels subsequently becomes the cause of other morbid symptoms, or lays the foundation for future disease.

The chief subjects of constipation are, old phlegmatic weakly persons; those who lead a sedentary life, and perspire much; hypochondriacs, and pregnant or hysterical women. Various exciting causes may be added to this predisposition, as,—deficiency of bile and gastric fluid, irritation of the stomach and alimentary canal by drastic purgatives or tonics, indulgence in indigestible pastry, &c., over-repletion of the stomach, frequent vomiting, stricture, induration or introsusception, or other organic lesions of the intestine. As various as are the causes of costiveness, the hydropathist, with the few remedies at his command, is more successful in his treatment of this disease, than other medical practitioners with their numerous drugs, which afford at the most but temporary relief, and more frequently increase the disturbance of the digestive organs. Discrimination is, however, necessary, even in the use of the cold water. It happens but too frequently, that patients commence the treatment by stimulating the system to excess with copious potations, clysters, bandages round the

abdomen, and sitting-baths, or with the powerful douche. They certainly produce in this manner regular evacuations for a time, but the action of the bowels becomes very soon irregular; and although the patients may now torture themselves again in the same manner as before, the functions of the bowels are but partially performed: then the patients utter bitter complaints of the inefficiency of the water-cure, forgetting that their abuse of this admirable system is the sole cause of failure.

Where shall we find persons who possess sufficient patience, equanimity, and perseverance to adhere to the treatment for a sufficient length of time to overcome this disease—the work of years—in a natural and simple manner? These patients are for the most part accustomed to the use of purgatives, which have afforded them temporary relief; they are unwilling to discontinue these remedies, or they are unable to overcome their inclination to intemperance, and endeavour at last, by the water-cure, to drive the enemy from his strong-hold. Patients who contend with the disease in question must form a firm determination to adhere to a rigid regimen and to strict diet. Few persons, however, are capable of marking out for themselves the proper course they should pursue; they are either too anxious, or believe that they are living in a judicious manner, let their intemperance be ever so gross. Patients, therefore, would do well to consult a physician, who would lay down the rules they are to observe before they enter upon a course of hydropathic treatment.

The regimen being arranged, the patient should wash his face, chest, stomach, and abdomen, or even his whole body, every morning on rising from bed, with cold water; drink a few glasses of cold water, and take exercise in the open air, before breakfast, and continue the potations during the whole day; but he must not drink too much, in order

to admit of an addition to the quantity, in case the disease resist our efforts longer than usual. Water-drinking alone is rarely sufficient to restore the action of the bowels; the patients, therefore, must then take a sitting-bath of one quarter of an hour's duration, one hour before dinner, and again an hour before retiring to rest. In summer, the water for the bath should be of the ordinary temperature; in winter, it should be slightly tepid. With regular diet, potations, and sitting-baths, the patient must persevere, until the unfavourable symptoms disappear, or until these remedies cease to produce evacuations. In the latter case he must discontinue the sitting-baths, substituting one, or, in case of need, two clysters, the one to be used in the morning, which generally causes an evacuation, the other an hour before going to bed. With these injections the patient must persevere as long as they produce the desired effect. Where the clysters lose their effect, he should wear an abdominal bandage (umschlag) by day and night; and this application should not be changed until it has become perfectly dry. Where the action of the bowels is not perfectly regular after the use of these remedies, the patient must resort to the douche every third day, persevering, at the same time, with the former treatment, and adhering to the dietetic rules. Should we not succeed, in very obstinate cases, even with these means, the patient must then resort to the wet sheets, remaining one hour daily in the envelopment. Generally speaking, we must change our mode of treatment several times during the course of the disease. This proceeding is necessary where the affection is protracted, and constipation recurs after a certain period in the course of the treatment. In this manner the organs operated upon by the water remain susceptible to its influence; and we avoid incurring the risk of stimulating them to excess. In very obstinate cases, where a long period of

time—one year or more—is necessary to complete the cure, we may have to discontinue the use of one application, and return to it again several times in the course of treatment. Where organic disturbances, and lesions which will not admit of modification, are the cause of constipation, a cure is of course impracticable.

Jaundice (Icterus.)

We distinguish acute and chronic forms of jaundice; it is also at all times symptomatic, appearing as a complication with inflammation of the liver and with bilious fever.

Jaundice frequently presents itself suddenly, and progresses rapidly; thus it may extend in a few hours, after it is observed in the eye, over the whole body. The complexion of a person affected with icterus is at first bright yellow, and becomes subsequently of a darker hue; but it is always slightly shaded with a red tinge. With this discolouration of the skin, the urine, at the same time, assumes a dark red or brown colour, becoming gradually darker until it is almost black: various disturbances of the digestive organs ensue; the tongue is coated and white, the taste faint or bitter; nausea is present, and occasionally vomiting; the bowels are slow and torpid; the patients are very irritable, and prone to anger; appetite is diminished, and thirst is increased; there is more or less of febrile disturbance.

The disease may occur at any period of life, and is brought on by various exciting causes, namely, by exposure to cold draughts during a hot summer, by passion or anger; it presents itself also in consequence of the bite of an infuriated animal; after the abuse of mercury; as a sequence of inflammation of the liver, and of bilious fever. The treatment of the last two forms of jaundice will be found under the heads of those two diseases.

Our treatment in acute and chronic jaundice must tend to produce critical deposits in the urine. To reduce the the fever by which the affection is accompanied, the patient must sweat at least once daily in the wet sheets, until spontaneous perspiration or critical deposits in the urine take place. In the former case, we must remit the use of the envelopment, but endeavour to keep up moderate diaphoresis uninterruptedly, until the yellow colour disappears from the skin. Where sediments appear in the urine, we may continue the sweating until the patient recovers. It is, of course, understood that copious potations of cold water, exercise in the open air, and the observance of a simple diet, are necessary during this treatment. To regulate the secretion of bile, it is advisable occasionally to wear a warming bandage, applied to the region of the liver. Sitting-baths are less to be recommended for this purpose, and require also more caution in their use; where they are employed, however, they should not be too cold, but should be of considerable duration.

The jaundice of new-born infants seldom requires particular treatment; at the utmost, tepid clysters are practicable, where there is constipation. Adults must combat costiveness by cold injections. During pregnancy the action of the bowels demands the greatest attention.

Retention of Urine.

Where the urine is passed with pain, in small quantities, or by drops only, the retention is said to be partial; where no urine is voided, the retention is said to be complete. These disturbances proceed from various causes, as debility, or defective conformation of the uropoetic organs, strictures, or calculi. Retention may also be brought on by the use of acid and spirituous liquors, and by spasmodic contraction. Predisposed to this disease are scrofulous and

gouty persons, especially those inclined to the formation of gravel and calculi in the bladder and kidneys.

Where defective conformation of the urinary organs, stricture, or calculi, are the causes of retention, the treatment of the affection comes within the province of the surgeon, although we may, even in this case, afford temporary relief by a judicious use of the cold water. Partial retention of urine we must endeavour to overcome by repeated sitting-baths, varying in duration and temperature: very cold baths allay pain, indeed, but they never further the passage of urine; the baths, consequently, should be of that degree of warmth which the patient finds most soothing, and most agreeable to his sensations. In the intervals between the sitting-baths, the patient should apply warming bandages to his back, abdomen, and perineum. When we have succeeded in facilitating the evacuation of urine, the sitting-baths should be repeated at longer intervals, and the bandages should be restricted to the back and perineum. If amendment progress steadily, the baths should be reduced in temperature, and repeated, at the most, three times in the course of the day.

Where continued efforts are made to pass urine, attended with pain and anxiety, we must place the patient in a tepid sitting-bath, and immerse the soles of his feet into very cold water, which should be frequently renewed to maintain the same degree of cold. If, within the space of an hour after this proceeding, the urine be not voided, we must allow the patient to leave the bath, and give him a cold lavement. Where this injection has not the desired effect, but the straining, pain, and anxiety increase, or if spasmodic symptoms present themselves, we must apply a warming bandage to his abdomen and perineum, and envelop him in a woollen blanket, (if the pain and restlessness permit it,) covering him at the same time with feather-beds to pro-

duce perspiration. During this process the spasms will disappear, and a discharge of urine will probably take place.

Should this treatment fail, we must again resort to the tepid sitting-baths, changing them frequently until our object is accomplished. Where this plan will not succeed, and the danger becomes more urgent, we must endeavour to draw off the water by means of a catheter.

During a course of treatment by cold water, especially where the urine is loaded with critical deposits, these inconveniences frequently present themselves, but the use of sitting-baths generally suffices to remove the retention. Individuals, predisposed to the formation of stone or gravel in the bladder or kidneys, should drink cold water copiously, and abstain from all other beverages, stimulate the skin to increased activity by the process of sweating and by cold ablutions, and thus oppose the formation of calculi.

Gout (*Arthritis.*)

This formidable monster, which appears in a variety of shapes, is generated in the portal system, by the formation of a peculiar acid, proceeding from the organs of digestion and from the liver, and is denoted at first by morbid or defective secretion of bile, and a change in the properties of the urine; subsequently, when the disease is fully established, by fevers and inflammations of the joints, with morbid depositions into their cavities.

To describe gout in its common form, in its irregular course to its various terminations, is a task the accomplishment of which would swell this work beyond my intentions; I shall therefore confine myself to the most prominent symptoms which present themselves in the acute and chronic forms of gout.

Acute *arthritis*, in which the chronic form generally

originates, is sudden in its first attack. For weeks or months previous to an accession, certain precursors are observed, consisting of more or less disturbance of the digestive organs, loss of appetite alternating with voracity, impaired digestion, sensation of weight and oppression, sometimes pain even in the stomach, acid bitter eructation, flatulence, impaired taste, constipation, or diarrhœa, torpidity, and hæmorrhoidal attacks. When the patient has been troubled for some time by one or more of these symptoms, the first attack of gout occurs generally between three and four o'clock in the morning. It is ushered in by a rigor, followed by flushing and heat. A violent pain is now experienced in one of the joints of the toes, fingers, or in other articulations; the pain is at times burning and gnawing, sometimes intense and oppressive; restlessness, heat, inflammation, and fever increase during twenty or twenty-four hours, until moderate perspiration appears, when the patients feel relieved and can sleep for a few hours. The part affected with pain now appears red and swollen. Sometimes these insufferable pains and exacerbations recur once or several times in the course of the day; generally speaking, a violent accession takes place every second or third day, and is attended with fever and continued pain in the joint. In the course of these febrile exacerbations, the articulation affected swells to a greater extent, or more frequently one joint after the other increases in size. When these swellings are fully developed, a partial or general crisis with copious acid, viscid clammy perspiration, leaving a white powder on evaporation, follows after every fresh attack. The tongue now becomes gradually clean, the urine cloudy, with mucous sandy sediment; the action of the torpid bowels becomes more regular, the fever, swelling, and pain diminish, miliary eruptions present themselves upon the skin, or hæmorrhoidal discharges

ensue. With these symptoms the patients recover partially or totally.

Where the patients can be placed beyond the influence of the exciting cause, it occasionally happens that after the first attack, they remain free from this formidable disease for the remainder of life. Generally speaking, the attacks come on again in the course of a few years, or much sooner, as a consequence of an intemperate or luxurious life. The paroxysms then become more frequent, recurring twice in one year, in spring, and again in autumn; subsequently, with every slight cause. The gout is, in this case, said to be irregular.

Where the disease is chronic, morbid action is set up in various organs, leading to defective secretion, impairing or totally interrupting the functions of these parts, as is often exemplified by the distortions, swellings, and anchyloses of joints, which are of frequent occurrence in cases of gout.

Interruption or sudden suppression of the fever during the process of elimination, or an insufficiency of vigour to eject the extraneous substances, lead to various affections and diseases; amongst which we may reckon apoplexy, arthritic inflammation of the eyes and ears, various affections of the neck and chest, indigestion, depositions on the brain and in the bladder, hypochondriasis, hysteria, hectic fever, dropsy.

There can be no doubt that gout is hereditary. Where this predisposition exists, the disease soon shows itself, or appears disguised in the character of some other disease. Where gout is not constitutional, it occurs between the thirtieth and sixtieth year of life. It attacks men more frequently than women.

At the head of the predisposing causes we must place inactivity, with indulgence in highly nutritious, stimulating food, and in narcotic spirituous liquors, and every thing,

in fact, that tends to impair digestion; further, excesses in venery; onanism; the use of many potent drugs, especially purgatives; deteriorated, improper articles of food, which are at the same time not nutritious; with immoderate bodily exertion; moist, damp, unhealthy residences; suppression of cuticular eruptions; immoderate mental exertion, grief, care, disappointment, anger, &c.

In order to treat an acute attack of gout successfully, and to the ultimate benefit of the patient, the practitioner must watch cautiously every indication of nature, to know by which passage, and when she intends to eject morbid substances, that he may not interrupt her curative efforts, but aid and assist her operations at the right time, when they are not adequate to the purpose. It is by no means, therefore, necessary to employ a potent and severe mode of treatment, or to relieve the violent pains. Hence many patients, especially those who suffer the first attack, will not consider my simple treatment sufficiently active, particularly where it refers to the alleviation of pain. Those, on the other hand, who, during several obstinate attacks, have gone through a course of treatment with narcotics, mercury, fomentations, infrictions, blisters, and local application of the power of cantharides, and other poisonous drugs, will well know what they may expect from these remedies. The majority will have made the experience that their torments are thus increased; that they can scarcely lie down, owing to the number of open sores; that their pains continue, notwithstanding these artificial tortures, and that they have no rest until the paroxysm is passed; and frequently not even then, in consequence of the sufferings produced by the medicines.

It is a well known fact that an acute attack of gout is limited to a certain number of days, when a crisis ensues, and partial or total recovery is the result. Every patient,

therefore, should make himself acquainted with the course of the disease in his case, and await the termination of the attack patiently in bed. Where the fever presents itself during the paroxysm with violence, we may venture on one or two envelopments in wet sheets, to moderate the fever slightly: but it is not advisable to be more active, to avoid interfering with the febrile action, or suppressing it altogether. In cases of urgent necessity the wet envelopment may be repeated with every exacerbation of the fever; nor should the very necessary application of "umschlage," under the head, be forgotten. The ablution which should follow, must be performed with tepid water at 68° to 73° Fahrenheit, never with cold water, because in the latter case the ablution would act as a stimulant, and increase the attack. It is better, and safer practice, in every case where the excitement produced by the fever is not fraught with danger, to omit the envelopment, especially if the practitioner be deficient in experience, because disturbances are thus easily created, which lead to various evil results.

Where, on the contrary, the efforts of nature are not sufficiently potent to carry on the process of elimination in a ratio with the progress of the disease, we must endeavour to supply this deficiency of reaction by envelopments in the woollen blanket, followed by cold ablutions, and should continue these applications once daily, until we may presume nature to have acquired sufficient power to complete the necessary excretion. We cannot determine how long the process of sweating should be continued, or how often it may be repeated, because these points depend upon the state of the patient himself. The diminution of the process of elimination requires greater caution than the promotion of this function; we must not, however, improperly prolong the treatment necessary for the assistance of the efforts of

nature, but merely employ it in accordance with the exigencies of the case.

In those cases where the febrile exacerbations are not too violent, but sufficiently active to bring the process of elimination to an issue, the patients should restrict themselves to a very meagre vegetable diet, (which is necessary in every case of gout,) drink cold water plentifully, keep the bowels in due action, and await the termination of the attack patiently in bed. Of course this treatment applies only to a favourable course of the disease, where there are no collateral bad symptoms.

To alleviate pain, warming bandages should be applied to the parts affected, but the repetition of these applications should be limited, as far as possible, to avoid interrupting or suppressing reaction. If the patient be not contented with these remedies alone, we may employ local baths, where the position of the parts affected will admit of the use of these remedies. If cold-baths afford the most relief, they may be brought into application, but only for a few minutes, as they would otherwise interfere with reaction. The greatest care is, moreover, necessary to keep up the proper action in the parts affected; it is therefore better, in soothing the patient, to make use of the bandages and tepid baths alternately, as the organ affected may remain a long time in the bath, and we have less fear of their causing a retrogression.

The application of bandages, and the use of partial baths, must be limited, if not entirely discontinued, as soon as critical perspiration, or critical deposits in the urine, appear. We must not allow ourselves to be misled by the idea that we are assisting nature by these remedies; we certainly should please the patient with them, because they are very soothing to him; but it is a great question whether they

promote elimination. If they ever have this effect, it is only under certain conditions.

The case is very different where the morbid excretions are deposited in situations not adapted for elimination, where reaction is not sufficiently active, or where nature seeks to rid herself of morbid debris, by passages and ways not fitted for the purpose. In all these cases we must not only apply warming bandages and cold ablutions to such parts, but endeavour to stimulate nature to greater activity by the use of the sudorific process. If depositions now take place in situations where the elimination of morbid matter would prove injurious, we must endeavour to prevent the formation of deposits, by cooling bandages, although these remedies will only prove efficacious at first. Where deposits are already formed, warming bandages are far preferable for the promotion of elimination of morbid matter, as we shall explain more fully in enlarging upon the treatment of chronic gout.

Where a patient has suffered an attack of gout before, or is descended from a family in which the hereditary predisposition to this troublesome disease exists, his future welfare will depend entirely upon his mode of life and upon the regimen he observes. If the attack ensue immediately after exposure to debilitating causes, after overloading the stomach or indulging in indigestible food, venery, &c., the patient must adhere to a very scanty diet, consisting of animal food. Where the evil is produced by indirect causes, stimulating food, drugs, or beverages, the patients must confine themselves to a vegetable diet, and drink nothing but cold water, which should be the beverage of all gouty patients. In addition to the observation of these rules, they must pay great attention to the action of the skin, and wash the whole body accordingly with cold water daily. Persons of robust constitution should avoid

wearing articles of woollen clothing next the skin. Irritable and weakly individuals, on the other hand, may wear flannel as under-clothing in the inclement season of the year—especially worsted stockings, as the feet and legs must be kept warm and dry. The strict observance of these rules, together with frequent exercise and pure air, (if possible the mountain breeze,) will materially benefit both those patients who have an hereditary predisposition to the disease, and those who have already suffered an attack. The former, namely, will pass their lives in a more comfortable state of health, and the latter will avert the recurrence of the attacks, or render the accessions less frequent, and guard against the sequences which so frequently result from an attack of gout. But few persons unfortunately will listen to this simple well-meant advice; the majority abandon themselves to their inclinations and passions. Thus it happens that the attacks of gout follow in rapid succession, and that distortions of the hands and feet, and disturbances and lesions of various organs are produced, of which I shall speak hereafter.

Where persons subject themselves to hydropathic treatment, who have suffered several attacks of gout affecting the joints in various ways, we must adopt a stimulating plan of treatment to bring about an acute attack for the cure of the swellings of the joints and of anchylosis. If the patient be of robust constitution, he must sweat in the woollen blanket for a quarter of an hour, or half an hour at the most, daily, apply warming bandages to the articulations affected, and perform a cold ablution, or use a cold bath after sweating; he must wear warming bandages round the joints and round the abdomen, and change them as soon as they become dry. When the action of the bowels is deranged, he may take one or two sitting-baths, of twenty minutes' duration daily, according to the degree

of constipation, and use a clyster every other day, until the evacuations are regular. In addition to these remedies, copious potations, (say ten to fifteen glasses of water daily,) very scanty vegetable diet, exercise in the open air, friction by rubbing and brushing of the whole body, and of the parts affected in particular, are very necessary. Weakly or aged persons may use wet sheets and perspire alternately every second or third day only; they may also be allowed to take a little meat daily; but neither veal, pork, nor fattened geese and ducks. Finally, they must observe all the foregoing rules.

Where patients, especially the robust, have followed this plan of treatment for several weeks without material benefit, they may resort to the douche for four to ten minutes every day, according to the degree of irritability, their constitution, &c., and with due regard to the joints affected. If in eight to twelve days no change take place, the use of the douche should be remitted for a like period, and must be brought into operation again at the expiration of this term. Thus the patient must persevere with the repetition of the douche, until critical excretions are produced, or general excitement, or an acute attack of gout supervene.

It frequently happens, that neither the envelopment nor the other auxiliaries we may employ to produce perspiration, succeed; we must then await patiently the termination of this period, and confine ourselves merely to the use of the wet sheet every morning. Six or eight days, or as many weeks even, may thus pass. As long as nature shows no disposition to critical perspiration, coercive measures are of no use, but rather injurious, as they debilitate the patient, make him nervous, produce congestion of large vessels, and frustrate the further proceedings necessary to effect a cure. I have known cases to have occurred, where injudicious coercive treatment produced dilitation of large

vessels, aneurism, and diseases of the heart, rendering a continuation of the water-cure impracticable.

Where we have by the preceding operations succeeded in producing a general or local crisis, or an acute attack of gout, our further treatment must be guided by the circumstances of the case. Where the attack of gout is natural, the treatment previously described will be required, with this exception, that the warming bandages to the joints affected should be more frequent, and that we may promote diaphoresis artificially, if critical perspiration be tardy or scanty. As a general rule, we should, during this important period, endeavour to discover in which way nature intends to remove morbid substances from the organism, in order to avert congestion from important organs endangered, and to aid the efforts of nature as far as possible by art, where assistance is requisite. To complete the cure, in cases where former accessions have left considerable swellings, a single crisis will sometimes not suffice; we must, in this case, therefore, endeavour to call forth a second or even a third paroxysm. These patients have seldom sufficient strength to bear a rapid succession of their attacks, which would prove, moreover, injurious, especially where the remedies required to bring on this process of elimination are very stimulating, and where perseverance in the treatment for some time is necessary to complete the cure.

General vascular excitement demands the same caution and circumspection necessary in the treatment of an acute attack of gout. The wet sheets would be employed only in dangerous cases, and even then merely as long as the danger exists. When the threatening symptoms are removed, we may leave the elimination of morbid substances quietly to nature, and must not interfere with her efforts as long as they are adequate to the purpose. General vas-

cular excitement usually terminates in a general crisis, evinced by eruptions on the skin, critical sweats, or deposits in the urine. The former produce the most excitement, and are less effective.

In cases of depositions in the joints, critical secretion of urine is very efficacious, certainly very beneficial, and fortunately, also, as it lasts frequently for months, least troublesome to the patient. The sediment in the urine is by no means inconsiderable, sometimes even very copious; but I have never met with any case where the elimination of these deposits continued without remission to the termination of the cure. Sometimes intervals of one month are observed, during which there is no sedimental deposit in the urine; but the interruption more frequently occurs every four or six weeks, and is then of three or five days' duration. In cases of long standing, where the swellings are numerous, we may be certain that the excretions mentioned will be observed for many months before the cure is completed. The patients must then adhere to a very rigid diet, use the cold water with moderation and consistency, and lead a quiet life, in accordance with the treatment, to avoid disturbing this natural process. Few persons, unfortunately, are sufficiently patient and persevering to bear with protracted treatment; the majority will not allow nature sufficient time for the process of elimination; they over-stimulate or debilitate their constitution before this event takes place. If some few have the good sense to await the commencement of the process, their patience generally ends at this moment, and they expect the whole affair to terminate in a week or a fortnight: they hurry home, and recommence their former injudicious mode of life. Of course, the old attacks recur sooner or later, and then they decry the water-cure. But where lies the fault? In their dissolute life—in their want of perseverance—in

the absurd and exaggerated manner in which they have conducted the treatment. The history of the following case will prove how necessary are patience and consistency for the cure of chronic gout.

Mr. Jos. von B., of Moscow, aged thirty-three, a man of slight frame, but of robust constitution, was descended from a healthy, robust father, but from a scrofulous and gouty mother. During infancy and boyhood, to his twelfth year, he had frequently suffered from swelling of the nose, and from scrofulous inflammation of the eyes. In the year mentioned, a painful, irritable humour formed upon his left thigh, which gave the medical men much trouble, and broke in the tenth week after its first appearance, discharging a quantity of unhealthy pus and blood. Some spiculæ of bone subsequently exfoliated. The wound now closed, and B. remained healthy to his eighteenth year, in which he suffered his first acute attack of gout. The paroxysm was of a mild nature, leaving only a slight swelling of the joints of the left foot.

Two years afterwards the podagra returned, and kept the patient longer in bed: the swelling on the left leg increased, and two toes became stiff. From this period the paroxysms of gout were irregular, and left swellings and disturbances of the various joints of both legs, and of the left arm. The left eye also was the seat of an attack, became staphylomatous, (covered with a leather-like film,) and a deposition in the interior of the organ destroyed vision. The digestive organs had only suffered periodically, for the patient's appetite was undisturbed, and his motions were regular. B. held an appointment under the Russian government, which obliged him to travel much upon the continent. He of course was frequently interrupted in the performance of the duties of his office by his old complaint; and he had, in fact, suffered attacks of gout in the

various capitals in which he had at times sojourned. The paroxysms were always brought on by trivial causes, and he had on each occasion been obliged to call in medical assistance. Under these circumstances his medical advisers proposed to him, after he had used all mineral baths in vain, to try the water-cure at Gräfenberg. He agreed with this proposition, and immediately set out upon his journey, and placed himself under Priessnitz's care, on the 1st of June, 1838. B. was ordered to undergo the process of sweating for several hours, once or twice daily; to bathe, and use the douche afterwards; to drink large quantities of cold water, and to take a sitting-bath. As diet was not mentioned, the patient satisfied his appetite according to his inclination. He told me, with evident satisfaction, that he could now eat nearly twice the quantity he could digest before. After continuing with this treatment for two months, without any alteration or amendment in the state of his health, he became very discontented with Priessnitz's inconsiderate treatment, and begged to be admitted into my establishment.

I of course did not neglect tu inform the patient that neither indulgence at the table, nor very active treatment would be permitted, because the former was in itself sufficient to produce disease, and would consequently keep up morbid action in his case; and the latter would deprive him of the strength requisite for a protracted cure, which his deeply-rooted complaint would require. The patient at first agreed perfectly with my views and treatment, but he subsequently became discontented, and inclined to the opinion that it would be better to indulge and undergo more severe treatment to force the crisis quickly. As I would not give my consent to these measures, he obeyed my orders but very reluctantly, and fixed the 8th of October as the day for his departure, if no crisis should ensue within that period. The

term stated passed away without the appearance of a crisis; the patient however felt considerably relieved, and could walk rather better. This was the only point he had gained. On the second day after his departure, the patient whilst on his journey felt considerably worse; heat and chills alternately attacked him, and the pain and swelling of his feet increased. On his arrival at Vienna on the 12th of October, his feet were very painful, and at the same time swelled to that extent, that he was obliged to cut open his boots in order to remove them from his feet. On taking off his stockings forty-one red, elevated ulcers were observed on the right leg and foot, and on the left six ulcerations with the same character.

Under these circumstances the patient was obliged to stay at Vienna, and continue the use of the cold water, according to his own option, for he would not resort to any medicine. He employed bandages and foot-baths, the latter, probably, too frequently, and for too long a time, for all the sores healed, excepting one ulcer on the right leg, which continued to suppurate until the month of December.

After the disappearance of the ulcers, the patient felt considerably better, so that he was able to undertake a journey into Hungary, thence to Turkey, and back to Croatia, where he had to remain some time in affairs connected with his employment. As soon as he was at rest he suffered a severe attack of gout, which kept him for many weeks in bed, and crippled him more than ever; he therefore formed the determination of returning to Freywaldau to complete the cure. On the 24th of March he came back to the institution, and made the observation, that he would not quit the house until he could walk out cured, or were carried out dead, and that he would strictly obey my orders. He kept his word.

The treatment was commenced with alternate sweatings and baths, in a manner suited to the debilitated state of the patient. Subsequently sitting-baths and bandages were added to the former remedies, with an occasional douche, according to the patient's state; and a very rigid regimen was imposed upon him. Exercise in the open air was limited for the present, the weather being very inclement. B. could not walk; at the most he could drag himself along with pain for ten paces with the assistance of a stick; at the end of that distance his strength failed him; he was therefore obliged to go through gymnastic evolutions in his room as well as he could.

The patient persevered with the use of cold water, as best adapted to his state, through the whole summer and winter, without experiencing any material relief. His digestive organs appeared to have gained strength, but this amelioration was not corroborated by the further course of the disease. The return of the rough autumn weather, and of winter, was most disadvantageous for the patient. He had not improved in his walking, and was obliged to take exercise in the room. In the course of the month of November a number of small boils formed on his legs and arms; some of these boils discharged pus mixed with blood, and others disappeared without opening. This process continued to the month of February, 1842, without producing any material alteration in the state of the patient's health. Two weeks after the cessation of this formation of boils, a white powder was secreted from the legs of the patient whilst using friction after the bath. The secretion of this deposit increased during the first fortnight, then remained for many weeks stationary, and diminished afterwards.

When the elimination from the legs ceased, the same process was observed in the arms, ran the same course in that situation, and terminated in a similar manner. The

periodical pains were but slightly alleviated, however, and the joints were yet stiff. After the lapse of a year, during which time B. made no progress towards recovery, he began to lose courage; but as he had found medicines useless before, and was incapacitated for travelling, he adhered to the water-cure. When a period occurred during which perspiration could not be produced, he became exceedingly impatient. Diaphoresis remitted for eighteen days once, and on a second occasion for five weeks. The douche was discontinued every fortnight, and repeated at the expiration of this term. Friction was also occasionally remitted as the patient's skin became excoriated, although every caution was used in the manipulation.

On the second of May the patient was waked in the night suddenly by a violent pain in the right foot, which increased until morning-time; and when I saw him, the whole member appeared inflamed and swollen. He was very much excited and feverish, and complained of an oppressive pain in the region of the stomach; he was troubled, moreover, with nausea, and four hours afterwards actually vomited. The fits of vomiting recurred in the course of the day, as often as he swallowed any food, or even water. The pain in the foot, however, became less during the day.

At the same hour of the following night, the left shoulder was seized with violent pain, which increased with every hour until morning, when it diminished in intensity, leaving a sense of oppression in the chest, which periodically disturbed the patient's respiration. In this manner the pain, though less violent than on the first two days, attacked one joint after the other, during nine successive days. The evacuation of the bowels was very deficient, resisting even the use of clysters. I must however observe, that the patient could take no food in the course of the day, as every

thing he swallowed was ejected by vomiting, or caused him considerable pain and oppression. The urine, which to this time had been dark red, changed its tint, became cloudy and light-coloured, leaving a reddish sedimemt, which two days afterwards became of a dull white colour. The patient complained of numbness in several joints, and of a sensation of cold in others. The skin was in the first days, excepting during the paroxysms of pain, soft, and was often covered with perspiration; but, in the latter days, it became more dry, and peeled off furfuraceously.

In five days desquamation ceased, the skin became frequently soft, the deposits in the urine became more copious, sleep was less frequently interrupted, the patient's disposition became more cheerful, his appetite returned, and he felt altogether more comfortable and in better health than he had been after any former attack.

On the thirty-ninth day after the commencement of this state of general excitement—the twenty-eighth of critical excretion of urine—this process was suddenly arrested, the change being attended by general indisposition. The patient now complained of acid eructation, uneasy disagreeable sensations in the right of the liver, which was painful on pressure. The action of the bowels ceased, the urine became high coloured, the skin dry generally and hot at the joints, which were also visited by slight periodical flying pains.

In the course of five days the urine again deposited a sediment, and all the inconveniences mentioned gradually disappeared. I ascribed this relapse to cold, for it could not have been brought on by an error in diet, as the patient was in this respect very cautious. I was, however, incorrect in my opinion; for, on the twenty-ninth day, a similar interruption of the process of elimination again occurred, without appreciable cause. The patient was attacked in

the night by a violent diarrhœa, accompanied with vomiting; the motions diffused an insufferable odour, were loose, of a dark red colour, and contained mucus. Five of these stools were passed in twenty-four hours, whereupon the diarrhœa ceased. The patient now felt exhausted, suffered from headache and slightly from fever; the urine became red, without deposit.

In the course of three days a change took place, and critical diuresis again ensued; the patient felt better in health, but there was no prospect of the joints becoming free, or of his being able to walk with more ease. The natural functions of the internal organs appeared to be properly performed.

Thirty-one days after this alteration, the patient sent for me in the middle of the night, his sleep having been interrupted by violent headache. On entering the room he met me with these words: "Now I am blind on my other eye; this is all I have gained in eighteen months by this tedious treatment!" I endeavoured, as far as possible, to quiet his excited imagination, and ordered immediately derivative baths with cold bandages to the head; but as these remedies did not appear sufficiently active to allay the violent gnawing pain he experienced on the whole of the right side of the head, I changed the derivative baths alternately for cold fomentations, friction of the feet, and warming bandages to the side of the head affected. This treatment caused the pain in a few hours to leave the right and attack the left side of the head. Although it lasted for some time, the patient bore it more quietly as he regained the sight of the right eye. In seventeen days the headache suddenly ceased, and the patient experienced a burning sensation in the umbilical region: the pain was so violent that he was obliged to abstain from every movement in bed. I would neither combat this burning by derivatives, nor soothing

applications, in the fear of causing the headache to return. The patient, although tortured with pain, was contented with this plan, as he preferred death to living in a state of blindness. When the pain and flatulence which supervened, had endured for six hours and a half, the patient was attacked by diarrhœa, which was at first moderate, but afterwards became violent. Much mucus and a little blood was passed during the attack. He continued in this state for about two days, then recovered, and felt much relieved. The critical elimination by urine was this time also interrupted; but the bladder again resumed this process on the seventh day.

Not to tire the reader with this tedious history, (although interesting to those affected with gout,) I will be as brief as possible. The recurrence of similar symptoms, but confined mostly to internal organs, continued with slight variation for more than half a year. These symptoms were limited to a certain period of twenty-seven to thirty odd days, and were always followed by amendment. The sufferer was again on the point of losing his patience, and of discontinuing the cure, nor is it to be wondered at, for notwithstanding the protracted and copious elimination by the kidneys, and the periodical pains which he had suffered, and the dangers he had overcome, his gait was by no means improved; and he had not made the slightest progress towards recovering the use of his limbs. On the contrary, he had latterly felt every change of weather in his swollen joints more severely than before. Health was his object. To attain health every other plan seemed less promising than the route he had pursued; he therefore mustered up the courage to persevere with the treatment.

The copious precipitates in the urine continued, as also the periodical interruptions and exacerbations, which, in the further course of the disease, never lasted longer than

two days, and were attended with more pain in the joints; but at this time the depositions in the joints which had obstinately resisted all treatment for so long a period, began to yield. After every painful excitement of an articulation, the gradual increase of freedom of motion became from week to week more perceptible, and in the same ratio the interruption which the swelling caused, ceased. The natural mobility of the joints was also gradually restored.

The articulations of the fingers first obtained their freedom of motion, afterwards the wrist and elbow joints, thence amendment extended to the shoulders, to the right leg and foot, and lastly, to the left foot, which was the first member attacked—seventeen years before. The process of absorption was less rapid in the ankle joint, and freedom of motion was consequently last gained in this situation. The copious deposits were still observed in the urine, excepting during those interruptions of three days' duration, which occurred every four or six weeks. The articulations became gradually more free, as was daily more evident, so that the patient whom we were accustomed to see for so long a time dragging himself with pain for a few paces only, walked, to the astonishment of every body over hill and dale without the aid of a stick. His task was, in any kind of weather, to ascend the Grafenberg twice, and the Kreuzberg once in the course of the day. He completed the cure on the 15th of May, 1842; therefore in the term of two years and nearly two months. The deposits in the urine decreased gradually to the termination of the cure, namely, during a whole year, with the exception of a few intervals, as above described. The patient had collected in the course of the last half year more than six ounces of this precipitate, which he intended sending to the

university of Moscow for chemical analysis, together with a description of this protracted, but successful case.

An objection has of late been made to the water-cure—"that it is too alterative, too potent in its action on organic structures, consequently destructive and not to be recommended." Is not an example like the above sufficient to refute so slanderous an untruth? The patient was not only cured of the swellings of the joints, after more than two years' treatment, but was moreover improved in health and vigour when he left the establishment, as two thousand visitors who were at the time at Freywaldau and Grafenberg can testify. That the course of treatment for chronic protracted diseases, which are so deeply rooted in the system, must be powerful and alterative to effect a radical cure, is certain; but in this, as in every other mode of treatment, judgment is an indispensable condition: it is necessary to estimate the degree of vital activity properly, and the re-active power of the nervous system in particular. The water-cure can only act destructively where it is absurdly abused, or persevered with for a considerable time, consequently, where the person conducting the treatment is deficient of perception, or where the patients, with the appearance of the first critical symptoms, lose their courage and fly to the use of drugs.

As regards the critical efforts of nature, which create so much alarm in the minds of the uninitiated, they are not always as obstinate and protracted as in the former case. In illustration of this point I will briefly relate another case, which will appear more favourable to many patients.

Mr. J. Gross, of Bucowina, aged forty-two, of powerful frame and plethoric diathesis, but of irritable, choleric temperament, had enjoyed health from his infancy, excepting that he had suffered from small-pox and other diseases to which children are subject. His parents had been

healthy; but his father, I must observe, was subject to hæmorrhoids. In the patient's thirty-fifth year the first symptoms of piles presented themselves in his case, and were subsequently attended with occasional bleeding. All the functions were otherwise regularly performed, and the patient was free from all inconvenience to his thirty-eighth year, when the discharge of blood ceased without appreciable cause. In the autumn following this stoppage of periodical bleeding, he was visited by a severe attack of gout, which left the hip joint in a paralyzed state.

The physicians consulted, made use of all remedies at their command, not only in vain, but produced a degree of irritability in the affected parts, causing violent attacks of pain with every change of weather. Symptoms of paralysis of the bladder and incontinence of urine were, moreover, superadded.

In April, 1841, the patient was brought to my establishment off a very tedious and fatiguing journey. He could scarcely walk on even ground with the aid of crutches, and assisted by a servant. The retention of urine, of which he suffered, was the most formidable symptom, because it prevented him from taking potations of cold water. The treatment was therefore limited to the use of the external applications of water chiefly.

The patient was enveloped daily in a wet sheet, in which he perspired for a quarter of an hour every third day. When he was thoroughly warmed, and after every sweating, he took a cold bath, and his whole body was rubbed twice daily with the hands dipped in cold water, followed by friction with horse-hair gloves. The friction was especially directed to the back. Subsequently the douche was occasionally used in place of the process of washing and rubbing. In consequence of the inactivity of the uropoetic vessels, two sitting-baths of short duration, and bandages

to the perineum and spine, were ordered: and the moderate use of cold water internally was also enjoined.

The patient had not followed these orders quite two months, with some slight variations, before he appeared in a very excited febrile state; suffering, at the same time, from violent pains, especially in the hip joints. The latter affection deprived him of the use of his legs. He complained of a dull pricking sensation in the back, and of a pressing, gnawing pain in the left hip bone, (*ilium.*) The urine, which had hitherto passed involuntarily, was not voided for forty-eight hours, but, when emitted did not inconvenience the patient. The next discharge was of a mucous character, and of a dark brown colour. Perspiration ensued in three days, the secretion diffusing an acid odour. On the seventh day the fever and pain had disappeared, and the latter was supplanted by a sensation of numbness, combined with itching. The passage of urine was rendered difficult by a quantity of thick, tenacious mucus, which was voided with the natural secretion; but the discharge no longer took place involuntarily. The patient was treated for some time on soothing principles. His gait improved evidently with every day from this time. The anodyne treatment was now changed, in accordance with the patient's state, for a strengthening, slightly stimulating plan, which, to the astonishment of all visitors present, restored him in four weeks so far, that he could, with the assistance of a stick, ascend the Grafenberg daily. In the course of a fortnight he was able to lay aside the stick, and accompanied those patients, who were capable of walking, in all their promenades. Since the occurrence of vascular excitement before mentioned, the urine had not passed involuntarily, but was voided with some difficulty, and was charged with mucus for some time yet.

After the use of the water for four months, during which

time the patient suffered but one single febrile attack, he left the establishment cured. Before his departure, however, he extolled the water-cure in a very successful poem, and held a long oration to all patients present, in which he expressed his gratitude, and exhorted them to obedience and perseverance.

I could lay some very remarkable and interesting cases before the public, for the information of those in particular who are inclined to doubt the success of the water-cure; but where would be the good? The two successful cures related will be sufficient, both for those who are deficient in faith, and for those who expect too much, and are deceived in their expectations. These histories will sufficiently inform them of what they may expect, and under what conditions they are justified in forming hope.

After this short digression I must mention some other forms of gout, and explain the treatment of them more fully.

One of the worst varieties of gout is that in which the head is the seat of an attack. It causes the patients so much pain, especially at night, whilst in bed, that (if I may so express myself) it drives them to desperation. In an attack of this description, the derivative foot-baths and sitting-baths must be brought into operation. It is not always at our option to choose the species of bath, or to decide upon its temperature; we should therefore rather adopt this general rule: where a very cold foot-bath, followed by friction and warming bandages, are sufficiently derivative, *i. e.* if they allay pain, we must continue the use of them as long as they prove beneficial. The foot-bath, as described, is the most innocent derivative we can employ. If we order sitting-baths, the water should be of a temperature of 59° Fahrenheit, and the patients should remain in them for one hour or more, according to circum-

stances. A temperature below this degree is seldom advisable, because in that case, the pain will frequently attack the abdomen, as I have often observed, and the patients then suffer as much pain as before, without experiencing any diminution of the danger. Warm foot-baths I have occasionally found very serviceable. They must be of a temperature of 91° to 95° Fahrenheit, and the patients should keep their feet in them for half an hour or an hour, according to circumstances. The temperature mentioned may be maintained by adding hot water occasionally to the bath. After the foot-bath, the feet must be wrapped in a well-aired woollen blanket, to guard against cold. Keeping the feet warm is to be regarded as a chief point. The best mode of accomplishing this object is, to rub the feet frequently with horse-hair gloves, and to use occasionally very cold foot-baths, at 41° to 44° Fahrenheit.

Bandages to the head deserve the same consideration. Warming applications will be found most frequently beneficial; but we may also employ cooling bandages, if the former fail of affording relief; they are also frequently of great service after derivative baths. Where it is our object to maintain the same temperature in the part affected, a dry bandage will sometimes be found useful. It would be impossible to give general directions for the use of bandages, considering the differences in various constitutions, and the different forms of the disease: we must therefore judge of this point, by observing the effect of various bandages, selecting that variety which acts most beneficially.

If by the foregoing treatment, combined with the use of copious potations, the attack of gout subside, the patient must subject himself to a course of general treatment, as required in chronic cases of gout, and should observe all the same rules.

Various other organs are subject to arthritic attacks, as

the stomach, the intestines, the heart, the kidneys, the bladder, the testicles. The treatment in these cases does not differ materially from the treatment of gout in general: we will therefore merely mention the most essential points to be observed in attacks on various organs.

In gout in the stomach or intestines, we must pursue the same treatment as in common inflammation of these organs. Where this treatment will not suffice, very cold bandages, frequently repeated, with cold clysters and potations of cold water, administered in small doses at a time, are frequently very useful. This proceeding, however, is only applicable in extreme cases, where all other means have failed. As soon as the violent pain is modified, or has entirely ceased, we must direct our attention to the production of exhalation from the skin, which will frequently alone moderate the torturing pains. The sudorific process is very necessary after the use of cold bandages, because it best equalizes the circulation of the fluids, and regulates the nervous influence after these disturbances.

Where the gout attacks important organs, the heart, &c., the paroxysm is denoted by irregularity in the pulse and peculiar respiratory sounds, not unlike the noise of filing, and by pain in the left arm. We must in this case apply warming bandages to the chest, employ friction with horse-hair gloves to the same part (if the patient can bear it,) and prescribe derivative baths, especially foot-baths, of very cold water, (if possible,) as cold foot-baths are to be preferred to warm. These foot-baths must alternate with powerful friction, to stimulate the feet as well as the hands. In this manner we are more certain of inducing the disease to leave the chest. Envelopments in damp sheets, leaving the legs and arms free, are of essential service in the latter course of the disease. The patients should perspire moderately in the envelopment, as soon as the chief danger is

past. Arthritic attacks of the vertebræ, the kidneys, or intestines, are to be relieved by rest, and warming bandages to the parts affected. Where gout affects the urinary organs, moderately cold sitting-baths will be of great service. These baths should be of rather long duration, and may be persevered with for more than one hour, if the attack be moderated by them. Where these baths produce no relief, we must content ourselves with the aid of bandages and of cold clysters. The internal use of cold water must depend on the discharge of urine. If the urine be voided without difficulty, the patient may drink copiously; where, on the other hand, it is not passed with freedom, or is totally retained, the patient must drink very little, or not at all. Derivative foot-baths should not be omitted in this form of gout: they are of great benefit, especially if aided by a proper degree of friction.

The first considerations in the treatment of gout, in whatever form it may appear, or whatever organs it may attack, are a strict observance of diet, attention to the regularity of the bowels, and to the action of the skin. Unless these points be duly observed, neither permanent cure nor temporary relief is to be thought of. Patients attacked with gout, therefore, who have a serious desire to be free from this troublesome disease, must at an early period make the observation of these rules their chief object. The time comes, moreover, sooner or later, when patients must deny themselves every enjoyment, if it be only to render life supportable. Where a radical cure of old chronic cases is intended, the patients must possess sufficient strength to bear the treatment throughout; for when they are deficient in this power, recovery will either be but partial, or the patients will succumb to the violent efforts of nature, if morbid matter be not ejected. Where the necessary strength is not wanting, the patient must moreover on his part co-

operate with the medical man, assist him in his endeavours, and further the curative efforts of nature.*

On account of the close affinity of this disease with rheumatism, with which it is also frequently complicated, I will now proceed to the consideration of the latter affection, although this arrangement is perhaps rather defective.

Rheumatism

originates almost exclusively in suppressed action of the skin. It is not infrequently mistaken for gout, when it presents itself in the same manner. The symptoms of the two diseases bear a striking analogy, and are difficult to distinguish. Rheumatism may appear with inflammation and fever, or these symptoms may be wanting. Its attacks terminate, like those of gout, with critical perspiration and deposits in the urine.

During an acute attack of rheumatism, one or the other of the joints swell suddenly; the joints of the upper extremities more frequently than those of the lower limbs—sometimes several articulations at once increase in size, or all the joints of the body may be affected. The swelling is more or less considerable and mostly soft, the skin covering the joints is more or less reddened, and motion is generally impeded. The pain varies in intensity; it is not always confined to the original seat of the disease, but frequently wanders with the first appearance of swelling from the part affected, and attacks another joint. These affections are at first limited to the articulations, but the muscles subsequently become subject to this gnawing wearisome pain.

With the first accession, or immediately afterwards, the patients experience a violent rigour, which is followed by

* For more explicit information on this disease, see "Hydrotherapia," by Dr. Mundt. Pages 374—490.

heat. The skin becomes dry and hot; the pulse is accelerated, small, and often suppressed; thirst increases; appetite diminishes; the urine is high coloured; the action of the bowels is disturbed; there is frequently nausea, with a bitter taste in the mouth.

The acute attacks run their course in one to three weeks or longer, and terminate in a crisis of indefinite duration, either with partial or total recovery, or with impairment of important organs, or even with death—especially where cuticular eruptions have receded.

In the treatment of acute rheumatism, our first care must be to produce diaphoresis by the envelopment in the wet sheet, where nature does not take this course herself. If copious perspiration appear spontaneously, our only endeavour must be to prevent the cessation of diaphoresis, and to restore the action of the skin promptly by means of the envelopment, where it is suddenly interrupted, as frequently occurs. The ablutions, after sweating, should be at first of tepid water, subsequently, cold water may be substituted. The body must be kept open by bandages round the abdomen and by the use of clysters; and lastly, all parts affected should be covered with warming applications. Where the pain is violent, we may permit the patients to use cooling bandages for a short time, provided the remedies produce no interruption of the action of the skin in general. Thus we must endeavour to bring the attack to a termination promoting the action of the skin, and with moderate but continued perspiration. We should, moreover, urge the patient to change his linen frequently, and induce him to sleep upon a mattress without a feather-bed.

The internal use of cold water must depend upon the action of the skin. If perspiration be scanty, the patient must drink copiously, and should be well covered. If, on

the other hand, the secretion be abundant, the potations may be limited.

The appetite of the patient is frequently unimpaired, it should, however, be sparingly satisfied. Very weakly persons may be allowed to take nutritious food in small quantities, but to prevent relapse, which is frequently caused by repletion, the quantity and nutrient properties of the food should be increased gradually. In treating acute attacks according to these rules, we shall not have to fear that the disease will attack other parts; at least, I have never met with an instance of this kind amongst the numerous cases which I have treated myself, or seen treated by others.

As necessary as it is to keep up a continued and uniform action of the skin in acute cases, it is not less essential to limit diaphoresis in chronic cases; perspiration should then only be brought about at certain periods, and as an exception. To render this more intelligible to the reader, we will particularize some forms of rheumatism and explain their treatment.

Rheumatism of the head. Where the attack is acute, we must commence our treatment with a view of producing critical perspiration or deposits in the urine, in the manner above described, namely by envelopment. The change of the wet sheets must depend upon the degree of fever; when diaphoresis is to be quickly produced, the repetition must take place but very rarely. If perspiration appear spontaneously, the use of the wet sheets must be discontinued, to avoid interfering with this critical process. Warming bandages should be applied to the part of the head affected, and the patient should, at the same time, use derivative foot-baths.

Where the disease has endured for months or years, the patient need not sweat, but we should prescribe cold ablution of the whole body once or twice daily, followed by

powerful friction. If the skin become dry and brittle, the patient may perspire once every eight or twelve days, and wash the whole body afterwards with very cold water. The patients must, in this case, wear a warming bandage on the head by night and day in summer; in winter merely whilst they are confined to the room. The evacuations must be promoted by clysters, and two cold foot-baths may be used in the course of the day, to act as derivatives. The feet should be kept very warm, the body should be generally defended against inclemencies of the weather. A sober life and strict diet are moreover necessary in the treatment of this form of the disease.

Rheumatic attacks of the neck and its muscles, impairing the mobility of this part, and rendering the neck perfectly stiff, must be opposed by frequent ablutions of cold water, and by the application of warming bandages. In obstinate cases, where the inconvenience will not yield to this simple treatment, we must resort to the application of snow or ice. This remedy is rather potent, but for the most part safe. We should observe what effect this application produces in three or four minutes, and how long the excitement it causes continues. These indications must serve as our guide for the repetition of this stimulant. One or two of these applications daily will generally suffice. After the patient has pursued this treatment during four to ten days, he must discontinue these applications for the same period, and resort to them again at the expiration of this term. On the days of the applications of snow or ice, I generally remit the use of the warming bandages. I have, in rare cases, allowed the patients to resort to the wet sheets, but the foregoing treatment alone is generally sufficient to complete the cure.

I have frequently cured very old rheumatic affections of the back, of the muscles of the thigh, arms, and legs, and

even of the chest, in this manner, adding the sudorific process in some few cases; but for the most part I have found this addition superfluous.

Continued sweating renders the patients more sensitive to external impressions, and frequently augments their sufferings. The same applies to the immoderate use of the douche, which causes too much excitement, whilst a short Sturz-bath is frequently of great benefit. In all cases of rheumatism we must pay great attention to the action of the skin generally. To augment the activity of this organ, without stimulating it to excess, persons who are inclined to rheumatism should wear woollen apparel, if they live in damp districts or in damp residences; but they should pay more attention to cold ablutions, and to the use of cold water internally, than to warm clothing. Woollen wearing apparel should not be used, unless the sufferings render it absolutely necessary. The diet of these persons must by no means be stimulating; they should drink nothing but cold water, and avoid every irregularity, as a frequent recurrence of the disease may deprive them of the use of their limbs, and render them miserable objects for life.

Tic douloureux.

This very painful and obstinate disease is of rheumatic, gouty, or nervous character. It is very irregular in its invasion and course. The paroxysms frequently take place suddenly, and are marked by lancinating, gnawing, excruciating pains; mostly limited to one side of the face, often to but a small portion of it; but sometimes they extend from a certain spot over the whole countenance. As the disease progresses, the mobility of the muscles on the side affected becomes impaired. The side of the face attacked exhibits a difference in shape from that of the sound side. The mouth is distorted, the eye is more prominent: to these

affections, are added periodical spasmodic contractions of the muscles, occasionally loss of odour, impaired taste, and defects of hearing, &c.

Tic douloureux is generally brought on by exposure to cold or wet, or by mechanical injuries, contusions, a blow, &c. Women are more frequently attacked by this disease than men.

As long as the affection is acute, the treatment presents but few difficulties; where, on the contrary, it is of long standing, and of a chronic character, the difficulties are greatly augmented. When a cold is the cause of the attack, we must endeavour to incite a crisis by perspiration, or in some other way, by means of the envelopment and cold ablutions daily. If, after some time, we observe that nature shows no disposition to rid herself of morbid matter by the skin, we must not carry the sudorific process too far, but should rather watch the curative efforts of nature, and endeavour to assist her in her operations, where these are insufficient for the cure. Success depends upon a crisis: we should, therefore, do every thing in our power to bring on this state of constitution. The crisis is denoted sometimes by an increased discharge of saliva, of tears, or secretion of mucus from the nose, and is sometimes so slight that it is entirely overlooked.

Warming bandages should be worn on the side affected, until a crisis appears, when dry bandages must be substituted, in order to maintain an uniform temperature of the parts affected. When the critical period is passed, we should accustom the patient to cold ablutions, that the state of the atmosphere may no longer exert an injurious influence on the parts.

Where the disturbance originates in suppressed hæmorrhoidal discharges, or cuticular eruptions, we must endeavour to re-establish these affections in the manner described,

when speaking of these cases of suppression; and the patient should, moreover, wear warming bandages by day and night. Where suppressed discharges or eruptions are not to be again brought on, or where other critical elimination does not ensue,—which will rarely be the case if the treatment be properly conducted,—we must at least afford relief by the use of derivative baths.

In the treatment of chronic tic, we must prescribe judicious dietetic rules. The patients must abstain from every thing which might irritate them, and should avoid every sudden change of temperature. It is perfectly impossible to lay down rules of treatment, which patients should follow to the letter, on account of the variable character of this disease; and a still greater impediment, moreover, presents itself in the difference of constitution of individuals. I have been successful with my treatment in several cases, both in Germany and in England, in a very short time; whilst other cases, again, have obstinately resisted my remedies for several months; at the end of which period recovery was at last complete, or the cure was altogether unsuccessful.

I generally commence by slightly stimulating the skin; by allowing the patients to perspire moderately every second or fourth day; by enjoining copious potations and exercise in the open air when the weather is fine; I further keep the action of the bowels regular, and prescribe warming applications to the side of the face affected.

If this treatment fail, it becomes necessary to be more active for a short time. I by no means then resort to powerful or protracted sweating, but order the cold ablutions of the whole surface of the body to be more frequently repeated.

If no relief be produced, the whole battery of derivative baths is to be brought into operation. We must try one

after the other, and retain that bath for the longest period in our service which acts most beneficially; or we should rather persevere with it until amendment ensues. When this bath loses its effect, we must proceed to the use of another description of bath. Whatever treatment we may pursue, we should never neglect the application of warming bandages, and a proper use of the potations of cold water; and we must also regulate the bowels by means of clysters and sitting-baths.

Sciatica

is not always a rheumatic complaint, but may be of gouty or nervous character; or it may even occur as a complication with any of these affections. The pains are not always limited to the hip joint, but extend frequently from this situation to all adjacent parts, sometimes upwards towards the back, sometimes downwards to the thighs, rendering every movement difficult, painful, or even impracticable.

As long as this disease is attended by febrile disturbance, the wet sheets must be used once, or, if the fever be very severe, several times in the course of the day; and the patient should await the cessation of perspiration in the envelopment. Moderate sweating, followed by an ablution, should be employed, even where there is no fever, if the symptoms lead us to suspect the disease to be of gouty or of rheumatic character. The warming applications, confined with a suitable bandage to the part affected, perform, as in the former malady, the chief part in the treatment of all cases of this disease. Where the affection is of long standing we may also use the douche; but neither this description of bath, nor the sweating, should be carried to too great an extent, but they are to alternate with powerful fomentations.

In the treatment of chronic cases, all our endeavours should be directed towards the production of increased activity in the parts affected; we must, therefore, adhere to each mode of treatment indicated for a very short time only, changing the various applications frequently, in order that their action may remain stimulating throughout. The water used must be cold—in summer ice may be added to it. Sitting-baths are only to be employed under certain circumstances, and should never be continued for any length of time. All persons deficient in practical experience should avoid the use of sitting-baths in the treatment of the disease in question, for I know of several instances where these baths, continued for a long time, produced the most serious consequences. Where suppressed hæmorrhoidal discharge, gonorrhœa, tetters, itch, or other eruptions are the cause of the disease, they must be reproduced by moderate sweating in the wet sheet, by a limited use of the douche, or we must bring about other critical excretions. Judicious treatment by water is more efficacious as regards the re-establishment of receded eruptions, than any other method of treatment. Hundreds of cases might be cited where all medical attempts failed, or produced very formidable diseases; where counter-irritation, by caustics, and by the potential cautery, even, was of no effect; and where hydropathic treatment succeeded. In corroboration of my statement, I will mention, cursorily, a successful case, where the cure was performed in a very short time, as can be confirmed by the testimony of many witnesses.

Mr. L., from Z., aged nineteen, was of (venous) scrofulous diathesis, but had enjoyed health to his fifteenth year, at which period he took the infection of itch in an hotel, and was cured of the disease, by an empirical practitioner, with ointments. In the following year he was suddenly attacked in the night with epilepsy, but continued in health

notwithstanding this fit, excepting that he was troubled occasionally with violent itching of the skin. During a sojourn at Vienna, about two years after the first attack, he was suddenly awoke in the night by violent lancinating pain in the hip-joint, which lasted with a slight interruption during three whole days. The fever, which accompanied the attack, diminished, the pain itself became periodical, and a slight inflammatory swelling formed over the part affected. The pain was less increased by pressure than by motion, and extended from the hip, along the outer side of the thigh, to the knee. This state of things resisted all external and internal remedies for three weeks, during which time the patient was confined to his bed. At his desire a second physician was called in, who pursued a more stimulating plan of treatment, and employed especially irritating infrictions. The pains were thus increased, and, according to the physician's account, fever supervened. In a few days the pain remitted again, and was followed by clammy sweating, which produced no relief. Three weeks had recently expired, six weeks from the commencement of the disease, and every movement was still attended with pain. A relation of the patient's now introduced his family physician, who ordered a plaster to be applied over the whole hip, which certainly afforded relief at first, but the pain returned in twenty-four hours with increased violence. The first plaster was changed, and a second was substituted, but the pain still increased. Warm poultices, which had been used once before, were now applied, and on this occasion with better effect. They produced, in fact, so much relief, that the patient, after using them for five days, was able to rise from his bed and walk a few times, cautiously, up and down his room. From this period amendment progressed daily, and whenever his state of health remained stationary, he was ordered to take a warm bath daily. The

bathing acted very beneficially, for in twelve weeks he was able to walk out. The pain had entirely ceased, or was rather limited to a slight sensation of numbness, which the physicians assured him would soon disappear.

From Vienna, L. undertook a journey to Italy, where he was obliged to remain some months. The sensation of numbness troubled him for some time, but subsequently ceased, and he was again in perfect health.

In seven months' time, nine days later, the same pain attacked him again in the night, but was not so violent as on the former occasion. The physician L. consulted, assured him of speedy recovery, as he was much excited, and dreaded protracted suffering, and the same loss of time; but instead of the promised speedy relief, his position became daily worse. A second physician was again called in; but the disease resisted all external and internal remedies, including those, of course, which had been found so serviceable in Vienna,—and the patient was again confined to his bed. Five months were passed in this lamentable state, when a very experienced medical man, attached to the hospital, was called into consultation. He inquired into all the remedies which had been hitherto employed, and declared that there was no other plan remaining, than to try the actual cautery, or a moxa. After a long consultation, the latter remedy was decided upon, and the decision was immediately put into execution.

This operation considerably increased the pain, not to mention the additional torture of the burn. In the further course of suppuration, the pain was indeed mitigated, but the leg contracted and became much weaker. In two months' time the patient was able to leave his bed, but he had lost the use of his leg.

He remained for some time yet in Prosnitz, in the hope of recovery, as suppuration had not yet ceased. Finding

himself however deceived, he came, nine months after the attack above described, to my establishment, to try the effect of the water-cure.

The patient's digestive organs were very much weakened by the protracted suffering, and by the use of internal remedies. His bowels did not act unless he took purgatives, and he could not walk without difficulty, even when assisted by crutches. By the use of cold water internally, and of bandages round the abdomen, by cold ablutions of the whole body, and by clysters, his constitution was invigorated, his digestion was strengthened, and the action of the bowels became regular. The treatment necessary to reproduce the eruption on the skin was now commenced, and with some difficulty carried out. On the fifty-fourth day of this treatment, the eighty-sixth since the commencement of the water-cure, the patient told me with much satisfaction, when I paid my morning visit, that the eruption had presented itself on the skin. On examination it was found to be a copious nettle-rash, which covered the greater part of the body. I was not as pleased with this eruption as the patient, who became rather uneasy at this circumstance; but when I assured him, that the breaking out was evidence of a disposition in the system to the process desired, he became contented, and continued the treatment cheerfully. The nettle-rash disappeared in the usual manner, but the state of the constitution remained the same as before.

On the ninety-second day, the patient felt suddenly indisposed. He experienced a rigor, followed by continued heat; the skin became burning and hot; he complained of giddiness, oppressive headache, a bitter taste, nausea, tightness in the chest, flatulence, unquiet disturbed sleep, a sensation of weight and weariness in the limbs. The febrile attack terminated on the fifth day, with moderate critical perspiration. The gastric symptoms disappeared on the third

day with diarrhœa. The patient was now restored to the prior state of health, but without any perceptible change of the original affection.

From the time of this febrile attack, the patient experienced periodically a troublesome itching in the skin, especially on the back and inner surface of the thighs. In consequence of this irritation, he scratched an open sore on the contracted thigh, which led to the formation of two inflammatory boils, leaving two open wounds. The one of these ulcerations closed in a few days; the other spread. Reaction in the constitution generally was very slight, and the edges of the ulcer became elevated and hard; whilst the circumference of the sore was excessively painful. The wound secreted a quantity of thin sanious matter.

The general health of the patient had improved considerably to this time, but the thigh affected remained in the former state. On the 110th day, the patient told me that he had been able, whilst sweating in the envelopment in the morning, to straighten his leg much better. His attention being attracted to this favourable symptom, he repeated the attempt several times during the day, and whilst in bed at night; and in the course of eight days, he was able to extend his leg in a straight line, began to touch the ground with his toes, and to place his foot flatly upon the surface of the ground. By his repeated attempts to walk, he considerably expedited the cure. Every day he trod more evenly upon the ground; and, on the 127th day, which happened to be his birth-day, he was able to lay aside his first crutch, and ten days afterwards the second also.

From this time he could walk, slowly, and merely on even ground, with the assistance of a stick. Recovery proceeded rapidly; but although the ulcer on the inner side of the thigh neither spread in circumference nor in depth, yet it did not present the most favourable appearance. The

base was of a bright red colour; the margins were flat and blueish in colour; the circumference was brown, and covered with a discoloured scab; it discharged, moreover, a thin sanious secretion, and caused lancinating pains.

By perseverance in the treatment, and with the assiduous co-operation of the patient, we gradually came nearer to the end of our endeavours. All the functions were regularly performed, and the contracted leg gained so much in strength, that, in the middle of the fifth month of the treatment, the patient was able to walk with or without a stick. The healing of the ulcer was protracted for five months longer. At the termination of this period the wound began to decrease in size; the secretion from the surface was more healthy, granulation became more evident, and the opening closed daily. In a short time a red cicatrix covered the former sore, and thus the cure was completed.

HUMOURAL DISEASES.

Scrofula.

We understand by this term a state of disease which is recognized by various characteristic symptoms, and by the peculiar appearance which the patient presents. The scrofulous diathesis indicates a remarkable diminution of animal vitality in certain parts, and an approximation to vegetation. Struma is almost peculiar to children; and, in its further development, leaves the abdomen, fixing itself upon the glands of the neck, and, about the years of puberty, on the lungs. This rule is not without exceptions; for scrofula sometimes attacks the lungs first, whilst the bones are the first seat of the disease in some individual cases.

The strumous diathesis is denoted by two different series of symptoms. The skin of the children is either fine, the hair dark, the eye-lashes are long, the features are finely delineated, and the children are precocious, showing great acumen and wit; or they have large heads, coarse hair, a tumid upper-lip, a swelled nose, a protuberant belly, thin legs, and are sleepy and weak of intellect. They are continually hungry, preferring bread, milk, and pastry, as articles of food. In both cases dentition proceeds irregularly, or is very much retarded; the formation of the bones is slow, and there is a disposition to rickets (*rachitis*,) to catarrhal attacks, to the formation of scabs on the head and face, to acidity, mucous stoppages, worms, and irregular action of the bowels.

Sometimes the disease terminates with this diathesis, but it more frequently attains a greater degree of development. Glandular swellings, varying size, then appear in various parts of the body. They are at first soft, but subsequently become indurated: they are not painful, and increase or diminish periodically: some of them subsequently proceed to slow inflammation. In this case, the gland, which previously felt of a natural degree of firmness, becomes soft in one or in several spots: the skin, in these situations, becomes discoloured, of a dusky violet hue, or livid; breaks, and a discharge takes place of a thin ichorous fluid mixed with blood, and flakes of a curdy substance, and matter. An ulcer is thus formed, distinguished by sharp, uneven, rough edges, by slow, unhealthy suppuration, and by great irritability.

Simple ulceration is not the full extent of the morbid invasion, but, frequently, obstinate inflammation of the eyelids and eyes, with copious excretion of mucus, tears, and matter, are superadded. In addition to these evils, we often observe discharges from the ears, inflammation of the lym-

phatic glands, various eruptions, chronic cough, with expectoration, inflammations of joints, swelling of bones, exostoses, caries, irregular evacuation of the bowels; and, the disease terminates with hectic fever or dropsy.

Struma is proved to be hereditary; it is frequently the consequence of disease in the parents, as gout, gonorrhœa, syphilis, and the affections brought on by the abuse of mercury. To this hereditary predisposition other causes may be added, as residence in damp, cold, impure air, uncleanliness, enervation, insufficient exercise, over-feeding, especially indulgence in indigestible pastry, in preparations of sugar, &c., which create acidity, and ruin the stomach.

The first condition for the cure of scrofula, is to regulate the whole regimen of the patients, as soon as we perceive the first trace of predisposition to this affection, especially if our patients be children. A judicious regimen properly carried out, will in most cases suffice to crush the evil in the bud. The parents of scrofulous children, therefore, should pay attention to this point, rather than snatch at *specifics*, which are said to exterminate the disease. There are, in truth, no such remedies; and all these empirical preparations, misrepresented as such, increase the disease, encourage its formation, lead to evil consequences, and very soon augment the sufferings of the poor children.

Our endeavour must, therefore, be to overcome the predisposition to the disease, to arrest its progress by a rigid and judicious regimen. The diet should be simple, by no means stimulating, or consist merely of vegetable and fluid preparations, as is frequently recommended; but it should rather consist of animal food, as of the flesh of young animals, of veal, chickens, broth, &c. Fermented, or salt food, and those substances which have a tendency to create acidity, are to be chiefly avoided. The vegetable substances

which are most harmless, are roots; cabbages and other green vegetables are less to be recommended. Fat, indigestible pastry, is the most objectionable of all articles of food. Children must be allowed to eat but sparingly of the aliments permitted them, especially those patients who have a large protuberant abdomen, who are always hungry, and never to be satisfied. Patients must be confined to pure, cold spring-water as a beverage; they should begin drinking it before breakfast, and take in the course of the day rather more than is necessary to quench thirst. The more carbonic acid the water contains the better it will be suited to these patients; the more earthy salts, lime, gypsium, and alumina, enter into its composition, the less beneficial will be its effects. Hence, choice of water for internal use is by no means unimportant, and it should be subjected always to strict analysis before it is used in any quantity.

The atmosphere in which the patient lives must be equally pure, for experience teaches us that impure, damp, foggy air, will encourage scrofula, if not produce it. Parents must, therefore, as far as this is possible, remove their children from the influence of this pernicious agent. A residence in mountainous districts or on elevated plains, where there are continued currents of fresh air, is the most eligible; but it is not sufficient to afford the patients the opportunity of obtaining fresh air by change of residence; we must, moreover, watch them to see that they enjoy it in sufficient quantity; that they pass in fine weather the whole day in the open air, with proper exercise, with play, or with gymnastic amusements. In inclement weather, the exercise in the open air may be rather diminished. The elegant education of the present day must be entirely neglected, as it tends not only to render scrofulous children cripples in body, but in intellect also.

Patients must further avoid every injurious influence at

home, which might interfere with the activity of the skin; I mean particularly dirt and injudicious clothing. It is certain that uncleanliness will promote the development of scrofula, where the slightest tendency to the disease exists; nor can the circumstance astonish us, if we consider the reciprocal action existing between the skin and the body generally, and remember that the skin may be the seat of various diseases, and that when affected, it always implicates organs with which it stands in communication, by sympathy. For this reason it is necessary to pay the greatest attention to the cleanliness of the surface. This measure becomes the more necessary where children are known to be predisposed to the disease. In this case they must be washed from earliest infancy with tepid water, the temperature of which should be decreased as the children increase in age, so that they may be subjected in their second year to cold ablution at all seasons. A cold ablution must be performed at least once daily, on rising in the morning, and it would be better to add a second before bedtime. When the children are about five years old, it will be sufficient to wash the whole body once in the morning with cold water; but at that age they should bathe frequently in summer, and in rivers, indeed, where they have the opportunity.

Cleanliness of the linen and wearing apparel generally, must be combined with this cultivation of the skin. The clothing should be sufficient to defend patients from the influence of cold, but should neither prevent the access of air, nor exert a restraint upon the body, least of all, in summer time. The clothing must by no means confine parts of the body, much less the joints of the hands and feet, so as to interfere with the patient's exercise. It is scarcely to be believed that parents will ever confine the chests of their daughters with stays, when they are observed to possess a

tendency to scrofula, as this unnatural restraint is known to produce the most lamentable consequences, even where young women are in health—in the case of struma stays would certainly become the cause of distortions of the body.

By strictly observing the foregoing rules, we shall mostly overcome the disease, and even the tendency to it; should we, however, not succeed, where the disease is already deeply rooted, it will be necessary to add rather active hydriatic treatment to the regimen before mentioned.

Where the glands are swollen, or the skin is even broken, sweating in the wet sheets becomes indispensable. Robust individuals may perspire every day for a considerable time; those who are weaker, on the other hand, every second or third day; and the sudorific process must, in both cases, be followed by an ablution or bath. The temperature of the water should depend upon the state of the patient. If he be above six or eight years of age, and otherwise healthy, and if the glands be indurated, he may use cold baths, especially in summer; in winter, the temperature of baths should not be below 55° Fahrenheit.

Where several swellings are already soft, or have in part opened, the water should be of a temperature which will not irritate the wounds; it should, in fact, be in accordance with the state of the open sores. It is of course understood that the douche must not be employed under these circumstances; for it would certainly not lead to amendment, but would more properly render the case much worse. All open sores should be covered with warming bandages, to be worn by day and night. With these applications copious potations must be combined, and as much exercise in the open air as the state of the patient will permit.

If the indurated swellings resist the foregoing treatment

for a long time, we must adopt a more stimulating plan, proceed to the use of the douche, the wave-baths, or of sitting-baths in rivers, where they are to be obtained. These baths act very beneficially on the whole glandular system, and are quite adapted to these cases; it is, therefore, a great pity that we can only make use of them in summer.

Some soi-disant hydropathists have of late raised objections to these baths, and have attempted to ridicule their action, but from the whole tenor of their idle words, we may conclude that they are talking like the blind man of colours, and are only exposing their ignorance. Some of them may, perhaps, uphold these opinions to please Priessnitz, who rejects the river sitting-bath also, but knows little or nothing of its operation.

Where the bones are the seat of the disease, and they are already impaired or partially destroyed, the same treatment, accommodated to the strength of the patient, will be necessary to purify the fluids, and to affect an alteration in the physical state of the body. A judicious process of sweating in the wet sheet, warming-bandages and wave-baths, or sitting-baths in rivers, where circumstances admit of their use, have affected in these cases many successful cures, of which I will relate two, as they are rather remarkable.

N. N., from Sergsdorf, a boy aged fourteen, of irritable constitution, had suffered from his earliest youth from scrofula. The strumous diathesis became more evident in the eighth year of his age, so that in his twelfth year every organ of sense—eyes, nose, and ears, had been subject to severe attacks; which had not, however, produced any serious impairment. The boy had appeared to be in perfect health during nine months, when a painful swelling suddenly formed on the left thigh, occupying the circum-

ference of the limb. A medical man attended the patient during five months before the swelling softened, and commenced suppurating. The matter found its way out by several openings.

On the 3d of April, 1841, I undertook the treatment of this youth, and found the following appearances: a hard swelling extended over the whole thigh, from which a reddish fetid fluid was discharged by two fistulous openings. The patient was much emaciated, and his complexion was of a pale yellow colour, and he complained of pain in the whole leg, which deprived him frequently of his sleep at night. In consequence of the severe pain he could only walk with the greatest difficulty when assisted by a crutch, and he made the observation that his leg appeared to be filled with "lead."

After sweating for two months daily in a wet sheet, and wearing warming bandages round the thigh affected, and taking in the few last weeks a standing bath in the river daily—not to forget the use of cold water internally—his general health was materially improved, and he remarked to me one day, that he felt a sensation as if something of a firm structure moved in the affected leg. I told him that this was very possible, and that it might be a loose splinter of bone. On examination this opinion proved correct. The treatment was continued in the same manner until the exfoliated portion of bone was brought nearer to the surface—near to one of the fistulous openings. The swelling and suppuration increased during this period, but the pus was more healthy, and the sequestrum came nearer to the surface. In the course of the third month after the commencement of the treatment, during which period the patient had gained considerably in flesh and strength, notwithstanding the copious suppuration, the bone was removed through the fistulous opening. Its removal was aided by an incision.

What was my astonishment, instead of finding a large splinter of bone, as I had expected, to behold a perfectly round osseous cylinder, more than three inches in length, and of a size corresponding with the form of the thigh bone of a boy of that age! After the removal of the bone the wound very soon closed, but a painful enlargement remained in the situation where the exfoliation had taken place. In the fifth month after the commencement of the water-cure, the patient could walk without crutch or stick, and was dismissed as cured.

A similar case occurred in the year 1835. The patient was a young girl from *Kamer*. In the course of treatment, a round cylinder of bone, about three inches in length, exfoliated from her left humerus. As I could not conceive how nature, without the assistance of art, without splints, &c., could perfect these cures, I was silent on the subject, to escape ridicule; but when the second case occurred, I showed the exfoliated portions of bone to several medical men, who were as much astonished as myself at this restorative process of nature, well knowing that simple fractures frequently unite, so as to form disfigurements, notwithstanding the most careful bandaging.

Rickets (*Rachitis.*)

Scrofula affecting the bones, like the former disease, depends upon defective nutrition of parts. The children have a pale, dirty complexion as in scrofula, and dentition is very irregular. The teeth have frequently scarcely made their way through the gums, before they lose their vitality, and fall out. At the same time, the bones enlarge, become distorted and softened, and this state of the constitution is attended by general emaciation.

The affection of the bones shows itself most frequently in the extremities. The progress of the disease is some-

times rapid, but more frequently slow; the bones remain exceedingly soft and flexible, and yield to the force of the muscles; hence the frequent distortions.

The head increases disproportionately; the fontanels remain for a long time widely open, whilst the rest of the body becomes emaciate. As a consequence of this alteration in the osseous system, the children do not learn to walk, or lose the capability of walking where they had already acquired this habit. Various disturbances of the digestive organs are superadded: the appetite is voracious, the action of the bowels becomes irregular; constipation alternates with diarrhœa; the liver is frequently enlarged. In the further course of the disease, various distortions and disfigurement of the back, the shoulders, sternum, and ribs, present themselves, frequently attended by difficulty of respiration, and by asthmatic attacks.

The causes of this disease are those of struma. The children of parents affected with gout are most subject to rickets. In the treatment of this disease, a rigid regimen is the first consideration. Without this auxiliary, relief is not to be expected—much less recovery. The same treatment, in fact, must be observed as in the case of scrofula. The utmost attention should be paid to the action of the skin; and we must endeavour, if possible, to incite an eruption on the surface by envelopment in wet sheets, and by repeated friction of the whole body; or where we cannot succeed in this object, we must at least promote the activity of the skin. Patients affected with rachitis must be likewise urged to exercise in the open air, and to suitable gymnastic performances. Our next care should be to support separate parts of the body which may require this aid, with orthopedic apparatus, in order that the patient may be the better able to bear exercise. These auxiliaries must, however, be removed as soon as the limbs increase in

strength. The gymnastic exercise, to be of benefit in counteracting distortion, must be adapted to the curvatures of the diseased bones. All bodily exertion should, of course, be calculated according to the age, constitution, and state of the patient, for it would do harm, if injudiciously exacted, whilst the bones are in a flexible state.

The patients must, moreover, drink cold water plentifully, and in larger quantity where the functions of the digestive organs are disturbed. Irregularity of the bowels we should combat by bandages round the abdomen, and by lavements.

Chlorosis.

Women amongst the higher classes resident in towns are the chief subjects of this disease. The cause of this affection is to be found in the education and mode of living of young women, who, at the time of the development of the female frame, when the greatest changes are taking place, sit the whole day long at the work table, within doors, or pass their time in reading books which excite the nervous system. This defective education leads to premature development of the nervous system, causes an imperfect growth of the whole body, defective formation of blood, and morbid sensibility. As further causes, may be mentioned, a number of injurious impressions from without, as unwholesome, deteriorated articles of food, residence in damp houses, the use of stimulating foods and liquors, defective menstruation, loss of blood or other fluids, mental excitement, nervous fever, &c.

The complexion of these patients is remarkably pale, indicating an insufficient supply of blood (*anæmia*.) The colour of the skin is not white, but of a dirty, yellow white or sallow hue. The lips and tongue are also pale in colour. The skin is for the most part deficient in vitality, nearly

always cold, and very sensitive. The countenance is bloated, the feet swell, and the body becomes emaciated. The patients complain of great debility, are therefore very indolent, and court rest continually; the slightest exertion fatigues them, and produces difficulty of breathing, and palpitation of the heart. To these inconveniences are added, impaired or bitter taste, flatulence, eructation after eating, irregular action of the bowels, which are constipated for three or four days, and then become very relaxed; there is further, retardation of menstruation, or cessation of this function, where the discharge had already appeared. If the complaint increase, various nervous symptoms, and at last dropsy, or pulmonic phthisis, appear.

The chief considerations in the treatment of chlorosis are, to remove all exciting causes, and all injurious impressions, which promote the disease, and to regulate the diet more especially. The patients must restrict themselves to articles of food which are easy of digestion, and are of a mild, unstimulating nature, as fresh vegetables, biscuit, and well-baked wheaten bread. Every description of pastry must be prohibited at the commencement of the treatment; and when the patients have considerably recovered, those preparations of flour which are most easy of digestion may be occasionally allowed. The patients frequently attempt to deceive us into granting a permission for indulgence, by assuring us that they cannot digest any food except pastry; but we must not be misled by these misrepresentations, but should insist upon adherence to the dietary prescribed. With exercise in the open air, appetite soon returns, and the patients forget their favourite dainties in a very short time. It is a very good plan to fix a certain distance, suited to the patients' strength, to which they must walk daily, and to increase this distance to a certain point, beyond which they should not wander. Where patients have

the opportunity of ascending hills, this exercise will prove very beneficial, as mountain air is best suited to their constitutions. I have frequently had the opportunity of remarking how soon, with the observance of these rules, aided by very simple treatment, even very delicate and nervous women accustom themselves to this simple mode of life. I have often seen an emaciated shadow-like figure transformed into a blooming, robust woman; the greenish yellow colour disappear; menstruation, which is frequently disturbed, return; the appetite re-appear, and with it strength of body and cheerfulness of mind: I have seen a new and vigorous life begin—in one word, health restored! This statement I could confirm by relating many successful cases.

Besides the regulation of regimen and diet, we should be careful not to allow the patients to sleep on feather beds, but we should restrict them to hair or straw mattresses, with moderate covering. The patients must be warmly clad in inclement weather, keep their feet especially warm, and drink as much cold water as possible; always, however, before taking exercise, and never after it; for the thoracic organs are, during this state of the constitution, very irritable, and the patients are predisposed to colds, which greatly retard the cure.

The external treatment consists, at the commencement of the disease, in the performance of two ablutions daily; one immediately after rising, and the second before bedtime; and in wearing a bandage round the abdomen during the night.

Where the disease has already made some progress, where menstruation is irregular, and the feet are swelled, the patients must take two sitting-baths daily, which should never be quite cold in winter. In summer time, wave-baths, and sitting-baths, in rivers; which, however, should

not be of long duration, are to be recommended. The swollen feet must be rubbed twice in the course of the day; at first with the wet hand, afterwards with the dry hand; and in obstinate cases, warming bandages may be applied to the swellings, and are to be worn during the night. Constipation we must endeavour to overcome by the use of injections.

Where this treatment will not suffice, the patients should perspire moderately daily, or every other day, for half-an-hour in a wet sheet, and the envelopment should be followed by an ablution. If the menses are tardy or scanty when they appear, the patients must, in the first month of menstruation, avoid every thing that might disturb this function, and should abstain from every external application of cold water.

Dropsy

is not always a primary affection, but is more frequently a sequence of other diseases. It consists in a collection of serum, less frequently of albuminous fluid in the cellular tissue, beneath the skin, and in the various cavities of the body. This accumulation is caused by an increased secretion or decreased absorption of the fluids—or both these causes may co-operate to produce dropsy. The water of dropsy varies in its properties. It is sometimes clear and light-coloured: at other times turbid, and resembles whey; or it may contain mucilaginous or purulent constituents. The symptoms of dropsy are a flabby swelling of the parts affected, with a decrease in their temperature; dryness, and pallor of the skin; scanty secretion of urine, even if fluids be taken in large quantities; and dyspepsia, &c.

The morbid fluid may collect in any part of the body, and many varieties of dropsy are distinguished according

to the situation in which the accumulation takes place. The most common forms of the disease are—dropsy of the skin, (*anasarca ;*) of the head, (*hydrocephalus ;*) of the chest, (*hydrothorax ;*) of the pericardium; of the abdomen, (*ascites ;*) of the spine, (*spina ventosa ;*) of the uterus, (*hydrops uteri.*)

As numerous as the forms of this disease, are the causes by which it is produced. Hereditary predisposition may be sometimes regarded as the remote cause. This is frequently the case in water on the head, (*hydrocephalus.*) The disease is sometimes brought on by the influence of peculiar atmospheric conditions; by exhaustion of vitality, by continued immoderate excitement, by acute diseases, and in consequence of the loss of organic substance. It appears, also, after the continued use of debilitating medicines, after violent hæmorrhage, and with organic lesions of important viscera, *e. g.*, of the heart, lungs, liver, or spleen, &c.

The cure of dropsy can only be effected under certain conditions. Hydropathy, even, cannot perform a cure in cases complicated with organic lesions, general debility, total disorganization, and where absorption is completely arrested.

In treating this disease, our whole attention must be directed to the production of a crisis, by copious sweating, or copious discharge of urine. The skin is dry, whether the disease be complicated with fever or not. Before enveloping the patient in the wet sheets, the parts which are swelled, or the whole body, if the dropsy be general, should be well rubbed for several minutes with horse-hair gloves. As soon as perspiration appears, which will not be at a very early period of the treatment, we must offer the patient cold water to drink frequently, but in small doses, only as much, in fact, as suffices to promote perspiration.

At the time of wrapping the patient in the wet sheet, he should be furnished with an urinal, in order that he may remain for several hours undisturbed in the envelopment, and perspire freely. The duration of sweating must be determined by the state of the constitution; and the patient may be left to perspire as long as he can bear the process without too much inconvenience, for the more copious the perspiration the sooner will recovery take place.

Forced sweating, or too long a continuation of the process, are both injurious, because they exhaust the strength of the patient, without affording corresponding advantages, and render recovery but partial.

If during this treatment the evacuation of urine be copious, the sudorific process will become less necessary, and we need then only keep up a moderate action of the skin. Whatever emunctory of the body demonstrates the greatest activity, we should never neglect the internal use of cold water, but must urge the patients to drink copiously, to promote absorption and elimination. If the action of the bowels become disturbed, or if they were irregular at first, we must endeavour to regulate the function by the use of clysters.

When we have succeeded in removing the morbid fluid from the body, it must be our endeavour to prevent its reproduction. For the accomplishment of this object, it will be necessary to effect an alteration in the action of the various organs; the patients therefore, must remain hydrophilists, restricting themselves to water alone as a beverage; they must take much exercise in the open air, and observe a judicious diet, not only during the after-treatment, but for some considerable time after recovery. The food should be nutritious, but by no means stimulating.

As regards the various forms of dropsy, or the accumulation of water in the various internal cavities, the treatment

must be the same as we have mentioned; and we can expect but little benefit from bandages, or partial baths least of all, if we cannot effect a crisis by *diaphoresis* or *diuresis*.

Syphilis.

This well-known disease is propagated by a peculiar poison or virus, which produces a *contagious cachexia*, with specific inflammation and ulceration on the surface of the skin, with which it may happen to be brought in contact. If the disease be not modified or cured by proper means, malignant inflammations, eruptions, and sores, form on the surface of the body, and also in the mouth, throat, nose, and eyes. It may also be attended with inflammation of the *periosteum*, swelling of the bones, (nodes,) caries, and the patients may expire in the most deplorable state with horrid tortures.

Generally, on the fifth day after syphilitic matter has been brought in contact with a portion of the body, a small red spot, about the size of a pin's head appears upon the skin, and increases gradually, although it seldom rises above the surface. In sixteen or twenty-four hours, a vesicle is formed in the centre of this spot, and the elevation changes to an ulcer, containing in the centre fatty or brawny matter. The circumference of this ulcer, or "*chancre*," swells more or less, becomes dark, red, and painful. The sores occasionally assume a funnel-shaped form, with red indurated margins, whilst other sores remain flat and spread in circumference, or they may be elevated in the centre, and secrete a dark yellow matter.

The opinions of medical men are divided respecting the treatment of primary acute chancres, and yet more variable are their views as regards the treatment of secondary symptoms. Some practitioners treat the disease in a very

simple manner, by the application of caustics to destroy the sore, or remove the chancre by the knife; others admit of no cure without mercury, whilst others again never make use of its preparations in their treatment.

Experience has proved that all these modes of treatment are occasionally successful, and at other times perfectly inefficacious. Thus much appears, however, to be certain, that local treatment is less safe than the treatment by mercury, which is consequently in more general use. Quicksilver is certainly the chief remedy in this disease, but it must by no means be regarded as a specific, although all practioners who contend that no cure can be effected without this remedy, attribute ill success, in cases where it fails, to disobedience or neglect on the part of the patients, or to an injudicious use of the medicine. If we even admit that these causes interfere with its operation in the majority of unsuccessful cases, we can by no means allow them to be valid as a subterfuge, on all occasions. I have attended a great number of these patients, and have been acquainted with many others at Gräfenberg, who had been treated by the most experienced practitioners in the various capitals of Europe, but remained uncured, although the mercury was used with circumspection, and the patients were not guilty of errors of diet, cases in which a secondary disease, "*mercurialism*," combined with secondary symptoms, was produced, rendering the treatment by mercury no longer practicable; we may therefore with safety assert that mercury will not always cure syphilis; an opinion which I hold in common with many physicians of high reputation.

The non-mercurial treatment of the disease is equally doubtful, or more inefficacious, where the patients do not co-operate actively with the medical man, because the success in this case depends solely on the observance of a

rigid regimen in every respect. I became acquainted with the result of this method of treatment by the testimony of patients who had been thus treated, and more so by that of medical men who adopt this plan, and were sufficiently candid to reveal the truth.

The objections which we have made to the above methods of treatment, apply also to the water-cure. If the patients do not observe the most rigid diet, the disease remains uncured in this case also; but that acute syphilis may be cured hydropathically, daily examples in every establishment will prove, provided the treatment be not exaggerated, but judiciously conducted, and the patients submit to the hygienic rules. Many people will not agree even with this assertion; they go so far as to dispute the possibility of curing primary syphilis by water, and represent even the hydropathic treatment of this disease as exceedingly dangerous. It is inconceivable how these prejudices can prevail, for how can treatment adapted to the strength of the patient, combined with proper diet, act injuriously, or prove dangerous in any disease? The worst that could happen to the patient would be, that the disease would remain uncured; but he would yet have gained this advantage, that his body would be prepared for the use of any specific, which would then act with greater certainty. This is, in fact, the advantage hydropathy presents above every other mode of treatment, where it does not effect a cure.

Mercury exerts the greatest influence over syphilis; but it is also attended with the most danger to the patient, where it does not succeed. The original complaint remains not only uncured, but a second disease is then superadded, which is worse than the former. If these two affections leave anything undestroyed in the body, an ill-regulated

course of iodine used to neutralize the quicksilver, one of the poisons in the body, completes the work of devastation.

From what we have said, it may be concluded that a regulated diet is in a course of treatment by cold water, the most essential condition upon which a cure may be effected. The safest plan is to restrict the patients to stale wheaten bread and milk. The bread should not be too dry, and is to be meted out or weighed, and served in certain rations, where the patients will not exert sufficient self-command. If symptoms of indigestion, constipation, or diarrhœa appear, we may allow the patients, instead of milk, to take cold rice, sago, or tapioca pudding, which should not be fat, and may be served also in certain rations. The patients must drink cold water copiously, rather more in summer than in winter, because in the former season the water is not so cold, and the stomach becomes more quickly warm, and the body in consequence exhales more. Ten to sixteen glasses of water, according to the constitution of the patient, will suffice for the daily allowance.

In the further treatment, we must be guided by the strength of the patient, especially as regards provoking perspiration. Sweating should be resorted to every morning, and the patient should remain for several hours in perspiration. During this time cold water is to be offered him to drink, and when the sudorific process is ended, he should be subjected to an ablution with cold water, or use a tepid half-bath: the latter is preferable in winter. If we neglect this prescription, the cure will be greatly retarded. In warm weather, the patient may walk out in the open air; but when the weather is inclement, he must take exercise in his room, drinking at the same time the quantity of water prescribed. The clothing must be adapted to the season of the year, and the patient should be careful not to take cold, as catarrhs frequently protract the cure, or totally

prevent success. The wound itself, the chancre, the patient must wash repeatedly in the course of the day with cold water, and should wear bandages over it by day and night. Sitting-baths are not essential, but, if we employ them, their temperature must be such as will not irritate the ulcer. Irregularity of the bowels we must endeavour to overcome by clysters, by bandages round the abdomen, and by sitting-baths.

If the patients perspire in the wet sheet, they will gain many advantages; but we cannot always employ this remedy, as it occasionally causes too much excitement. Where excitement is observed, the patient should perspire in the dry woollen blanket, and only use the wet sheet occasionally, when the skin appears relaxed or torpid. The exercise the patient takes in the open air, or in the room, should be calculated to promote the action of the skin.

For robust, otherwise healthy, individuals, in whom there is no want of tone in the organism, the foregoing treatment, and the observation of dietetic rules, will suffice to complete the cure; but where our patients, on the other hand, have suffered before from scrofulous or scorbutic affections, and from other diseases of the fluids, or where they are yet labouring under such complaints, the prognosis cannot be favourable, and great circumspection will be required on the part of the medical man to obtain success.

Far more favourable are the results of the hydrotherapeutic treatment of secondary syphilis. I believe I am justified in saying, that no other method yet known has been of so much service, or ever will act so beneficially, in this very complicated disease, as a well-directed course of treatment by water, with the peculiar method of provoking perspiration. It is of course taken for granted, that where the cure is to succeed, sufficient strength and power of reaction must be present to enable the patients to

bear the treatment; nor should organs of vital importance be partially or totally destroyed. Even if such organs be partially destroyed, success may be obtained; but it will depend alone on favourable circumstances, for the work of destruction is frequently carried on at the early stage of the treatment during several days, or even occasionally for weeks, and renders a complete cure impossible: in that event, we must be contented to overcome the evil partially.

The latter are the cases which the opponents of hydropathy animadvert upon so strongly, and most atrociously misrepresent, to make the public believe that the water alone has caused the destruction. But every reflecting and intelligent observer will admit, that an assertion of this kind is perfectly erroneous, when he is convinced that the spreading may occur at the commencement of the disease, but that it will never continue during the further course of the treatment, provided the patients adhere strictly to the rules of diet prescribed; if these, however, be neglected, the devastation may of course extend.

As successful as the operation of the water-cure is in many respects in the treatment of this disorder, we have not yet been able to set a boundary to the disease at the commencement of the treatment. In the first few days the disease is frequently rendered stationary, and progresses favourably towards amendment; but it happens quite as frequently that it spreads for a short time; this is more especially the case with individuals who have been accustomed to the use of spirituous liquors in large quantities, and who are suddenly called upon to wean themselves of the habit of drinking.

We have remarkable and convincing proofs that this method of treatment operates most potently on the various organs of the human body, and strikes at the very root of disease, for it will reproduce affections which had disappear-

ed for years and were apparently cured, and then complete the cure according to the rules of nature, where it was not radical. How frequent are, in hydropathic establishments, the instances of patients under treatment for some complaint being suddenly, to their surprise, attacked by syphilis they had long forgotten,—patients in whom we had not the slightest suspicion of prior syphilitic affections! Fortunately, however, these accessions are very quickly cured, and not unfrequently all other diseases at the same time. A secondary or returned gonorrhœa, or chancre on the penis, generally runs its course in seven to twelve days. Ulceration of the throat, or buboes, reproduced by the water-cure, endure more than as long again.

Where persons are robust, and otherwise healthy, all the forms of secondary syphilis are more rapidly cured where mercury has been previously employed, than where this remedy had not formed part of the treatment. The more difficult is the cure where iodine has been used as well as mercury. Under the latter circumstances the greatest caution is necessary, and our attention must be chiefly directed to the accommodation of the treatment, the diet, and regimen, to the symptoms of the case. The water-cure should not be adopted in those cases where ulceration has created deep-seated destruction in the urethra, where frequent hæmorrhage ensues, or where the abuse of medicines has caused carcinomatous growths to spring up from the parts affected.

Syphilis is said to be secondary when, independently of the situation in which the morbid matter was first introduced into the body, other parts are attacked by similar sores, by glandular swelling, enlargement of the bones, &c. The primary sore frequently heals, and we consider the disease to be removed, but at an earlier or later period the secondary sequences of this disorder present themselves in the glands, in the mucous membranes, or in the bones.

When the glandular system is attacked, the glands swell generally in the inguinal region (bubo,) in the neck, or in the axillæ. One gland ordinarily enlarges, becomes indurated and painful; the skin in this situation becomes red, assumes a dark colour, and the movements of the affected parts are for the most part impeded. These swellings of the glands either terminate in resolution, or they proceed to suppuration. In the latter case, the sores have a very ugly aspect; the margins are either everted, hard, or callous, or they are surrounded with cauliflower excrescences. When the mucous membrane of the throat, the nose, eyes, or the bones, are affected, the patients complain, in the first case, of burning pain and tension in the throat, the mucous membrane of the part affected becomes red, and the tonsils swell. The red colour of the swelling is seldom uniform; for the most part it presents a dark discolouration, shaded with brown, and sooner or later proceeds to ulceration. Where the disease attacks the mucous membrane of the nose, the patients complain of a burning pain in that organ; in blowing the nose, mucus, streaked with blood, is discharged, and subsequently matter also, which diffuses a very fetid odour, and the cartilages are not only frequently destroyed, but the bony structure of the nose likewise.

Various forms of cuticular eruption, especially tetters and warty excrescences (*condylomata*,) or mere blotches, present themselves upon the forehead and on the neck. Condylomata arise in various parts of the body, generally on the penis in the male, in the axillæ in the throat, or around the anus—in the latter situation, frequently in such numbers, that they impede the evacuation of the bowels.

The treatment in secondary syphilis should tend to excite copious perspiration, and to purify the sores. The diet must also be regulated. We cannot, indeed, determine *à priori*, how often the patient should sweat; but perspiration

should be provoked daily, if possible: where the patient, however, is very weak, it is better to limit the duration of the sudorific process. It is, moreover, advisable to allow the patient to sweat once in the blanket only, and then again in the wet sheet. If the latter alone be used, and the cure be protracted, the skin will become too much relaxed, and lose the power necessary for the performance of the functions we require of it in the further progress of the treatment. By frequent and protracted sweating in the dry woollen blanket, the skin is also deteriorated, although not in the same manner; for, in the latter case, the patients perspire after every trivial movement, sometimes the whole night long; or, as is more frequently the case, the skin becomes dry and brittle, so that we can only obtain a very small quantity of perspiration with the greatest trouble, and the patients then become very irritable, and excessively sensitive to all external impressions. In fine, unless we observe the preceding rule, the cuticle becomes so altered that we are obliged to discontinue the treatment; or, where this is not the case, other important organs beside the skin become implicated in the disturbance, and the disease remains, nevertheless, uncured.

Our attention should therefore be directed at an early period to the prevention of such interruptions; and in the use of these daily sweatings, we should bear the strength of the patient, and the probable duration of the treatment, in mind. Whilst sweating, the patient must drink cold water copiously. Painfully affected organs are to be covered with bandages before the patient is wrapped in the envelopment; and he must *never* take a *cold* bath after the process of sweating, least of all in winter, for it would not only retard, but might even prevent the cure. The temperature of the bath should never be below 59° Fahrenheit, and in certain cases not under 66° to 73° Fahrenheit; the same rule applies to the water for the ablutions. Not before the

cure is nearly complete, may we proceed to cold ablutions and cold baths, or adopt a tonic plan of treatment.

Water should, indeed, be drunk copiously; but it is impossible to decide beforehand upon the quantity which will be necessary, as this must depend on the circumstances of the case. The patient should by no means take too large a quantity of cold water, for if they drink it to excess they will be continually shivering with cold, as will be indicated sufficiently by their cold and livid skin.

The less exercise the patients can take to keep up the proper action of the skin, and to maintain its temperature, the less water they should drink.

All parts affected with swellings or ulcers should be covered continually with bandages, where this proceeding is in any way practicable. The ulcers must be cleanly washed, in the early part of the treatment, with tepid water, and subsequently we may gradually decrease its temperature. In order to avoid irritating the sores, they should be simply sponged with old, soft, wetted linen. Where the sores secrete much impurity, they must of course be the more frequently cleansed.

When ulcers are situated on parts of the body admitting of the use of local baths, we may have recourse to these remedies two or three times in the course of the day. That the baths may not irritate, their temperature should not be too low, as cold baths will increase the disturbance.

A proper regimen must be combined with this internal and external treatment. The patients should be restricted to a scanty vegetable, and slightly nutritious diet; and we must watch them carefully to see that they do not overload the stomach. They should never be allowed more than one pound of well-baked stale wheaten or rye bread daily. The alimentary substance at dinner-time should consist of spoon-food, to facilitate the evacuation of the bowels; nor should

the use of clysters be neglected, for the same purpose. If, in the first part of the treatment, cold lavements do not answer the purpose completely, tepid injections may be substituted; but as soon as circumstances will permit of a change, we must gradually return to the use of cold water.

The clothing should be accommodated perfectly to the state of the body, and must be sufficiently warm to keep up the action of the skin. The hands and feet require especial attention, in order that the circulation generally may not be disturbed. Cold and wet weather is not favourable, as we know, to the action of the skin: the patient should, therefore, in this case take the necessary exercise in a warm room, by performing gymnastic evolutions, or sawing wood; and he must at the same time take the quantity of water prescribed. Beside the observance of these hygienic rules, it is clear that the patients must avoid every excitement which might act injuriously upon the system, as coition, &c. Every sensible patient will of himself understand that a cure is impossible without his own co-operation.

If by the foregoing treatment we have succeeded in producing critical symptoms of any description, we may limit the process of sweating, especially where the strength of the patient is much exhausted; unless, indeed, these symptoms consist in spontaneous critical perspiration, which must never be moderated or interrupted. As regards the use of the water, the regimen, and the diet, the patient must observe the same rules as before, until the cure is complete.

Buboes are to be covered by warming bandages, which should be closely applied; for the more pressure they exert, the more rapid will be the dispersion of the swelling. In the treatment by water, re-solution is generally produced; and the buboes will suppurate in very rare cases

only. Where we cannot avoid this termination, or where we have at once to treat open sores, both the suppurating buboes and the ulcers must be frequently washed with water, as above described, and covered with bandages, which should be moist, and are to be less closely adapted to the parts. As soon as the wound closes we may use water of a lower temperature for the ablution, and can finally proceed to cold water. When the abscess is closed, we must order sitting-baths of the same low temperature.

Ulcerations in the throat, patients may wash with water of a temperature best suited to their sensations. In performing this operation, they should incline the head merely backwards, and must not gargle the throat. If in very severe cases the water alone be too stimulating, a little mucilage may be added, to diminish the irritation produced by the water; but, as soon as it is possible, we must return to the use of tepid water, and should gradually make the transition to cold water, as in the treatment of all other sores. All that we have now said applies to abscesses in the nose, which the patient must frequently wash in the manner he finds most convenient. Patients frequently invent methods for this purpose, and practice so well that they can conduct the water in an astonishing manner through all the cavities and passages of the nose. A nobleman under my care, who suffered with a malignant ulcer in the nose, which had already destroyed several bones, acquired such an aptitude in gargling this cavity, that he could force the water he took in his mouth through the passages of the nose, like a whale, with extraordinary force. In this manner he certainly preserved his nose, which had already somewhat sunk; but, on completion of the cure, no trace of the former disease was observable externally beyond this slight alteration in form.

Where patients are troubled with chancres upon the pri-

vates, they must use injections and sitting baths in addition to the former treatment, more especially if the sores be accompanied by gonorrhœal discharge. It is of course understood that the water for this purpose must be of a temperature which accords with the circumstances of the case.

The secondary forms of the disease require no particular treatment. Nodes are to be covered, like every other swelling, with warming bandages; ulceration of the bones is to be treated like any other abscess. Portions of bone which are detached should be removed as soon as possible, to spare the patients the inconvenience of unnecessary suppuration.

Blotches and scaly eruptions do not call for particular treatment. These morbid symptoms disappear in a ratio with the removal of the syphilitic virus from the body. The same may be said of condylomata, and other syphilitic eruptions: they disappear totally at last—an indication that the cure is complete. What we have here said respecting the skin, is also valid with reference to the eye. As soon as the morbid process is brought to a termination, the ophthalmic affections will disappear, unless, indeed, parts essential to vision have already been destroyed; such lesions are necessarily permanent. In a course of general treatment we can do but little for the eye. At the most we may apply small cooling bandages, and make use of a few derivative foot-baths: but then we must be very careful not to let our ophthalmic applications interfere with the general treatment, or we shall do more harm than good.

Those patients who are under hydriatic treatment for insidious remote syphilis, must sweat for one hour at least daily, use the douche once in the course of the day, and drink cold water copiously. At the commencement of the treatment the diet need not be very rigid; but it must be

the more strictly observed when the disease has again made its appearance. In this case the whole of the treatment for syphilis may become necessary.

Lastly, I must observe that no difference is to be made in the treatment where syphilis is complicated with the peculiar state of the system produced by mercury or iodine. A slight variation will be required only, where we have to treat

Mercurialism

alone. The patients, in this case, must indeed perspire daily, but may perform cold ablutions, or take a cold bath after the process of sweating, unless their strength be very much reduced. In this case they may commence with tepid water, but they should proceed, as soon as it is practicable, to the use of cold water. Both the ablutions and cold baths must be of the shortest possible duration. Where the patients are sufficiently strong, they may resort to the douche once daily, and if their digestive organs have suffered, they may also apply bandages round the body and take a cold sitting-bath of short duration. The patients must likewise drink cold water plentifully to excite the lymphatic system into action, and thus to facilitate the elimination of the metal from the system. Where the patients are very debilitated, their diet must be nutritious but not stimulating; they should keep themselves as warm as possible, avoid colds and excesses of every description. They should apply warming bandages to ulcers or nodes, but open sores are not to be washed with cold water, especially in winter time. Before these patients enter the bath or the douche room, they should cover the sores with a bandage, to defend them against the cold temperature of the water, which would irritate them too severely.

If critical symptoms appear, indicated by deposits in the

urine or eruptions on the skin, we must limit the sweating; and unless the patients are of very robust constitution, the douche must be entirely omitted, and everything, in fact, that might interrupt the crisis should be avoided. The body must be kept regular, not only during this period, but during the whole course of the treatment; we should accelerate the action of the bowels, in case of need, by injections, by bandages round the abdomen, and even by sitting-baths.

It is very desirable that patients who have undergone a long course of treatment for syphilis, or *mercurial erythismus*, should, at the completion of the treatment, subject themselves to a tonic course: that they should strengthen and invigorate the debilitated organism by moderate potations of cold water, by cold ablutions and cold baths, before returning to their ordinary occupations.

DISEASES OF THE NERVOUS SYSTEM IN GENERAL.

The expression "*nervous diseases*," should only be tolerated in common parlance; it has, however, been applied to a series of affections which, strictly speaking, might be classed with many other diseases. Where we cannot fathom the cause of a disease, or understand its nature, we make use of the insignificant term "nervous affection" as a convenient screen for our ignorance. Thus, all aberrations in the performance of the functions of the external senses, or of the mental faculties, and all errors of muscular contraction, are especially designated with this term. Nervous diseases are very variable in their origin, in the causes which give rise to them, and in the disturbances they produce in the functions of the separate portions of the nervous system. The course of these affections is no less variable;

sometimes it is rapid, sometimes slow, occasionally it is regular, sometimes irregular, with constant, and equal or unequal intervals; sometimes it is remittent, periodical, or continued. The same observation applies to the invasion of the disease; sometimes it is sudden, sometimes slowly developed, at times precursors will precede the accession, at other times no premonitory symptoms may appear. The duration of the disease varies also; it may extend, with various changes, to old age or to the period of death. Sometimes these affections terminate in recovery, with or without critical symptoms.

Nervous affections may be hereditary, and where a predisposition to them exists, accession will be brought on by defective education. At various periods of life, the organism appears to be more disposed to these complaints, and thus to favour their development. To these periods we may reckon those of dentition and of puberty. A tendency to these affections is also observed during the period of menstruation and during pregnancy, during and after violent mental emotions. Congenital predisposition to nervous diseases is denoted by the signs of a delicate construction of the frame, as a delicate white transparent skin, exhibiting the minute ramification of vessels, a florid cheerful countenance, fine hair, and a slender stature, &c.

Amongst the causes may be reckoned, in addition to mental emotions, masturbation and excesses in venery; chemical and mechanical irritation, attended with pain; contusions, wounds; the abuse of stimulating drugs; the bite of poisonous or rabid animals; excess in the use of spirituous liquors; insufficiency of food, rest, or sleep; and, lastly, antecedent disease. All these causes impede the functions of the nervous system, more or less, and debilitate the organism, and thus promote the development of nervous affections.

A certain debilitated state, brought on by various causes, is generally the fundamental cause of nervous disease. This state of the constitution may be overcome with more certainty, and with less risk of producing sequences, by a judicious use of cold water, than by any other system of treatment. Cold water is certainly more efficacious than all those narcotics, sedatives, or nervines, which diminish the nervous symptoms for a time, or render them occult, but by no means cure them; for they generally return, after the use of these drugs, with increased vehemence, until the whole nervous system is totally destroyed.

It is not to be denied, that a state of over-excitement may be produced by cold water alone; but then, this never occurs unless the water be injudiciously used. We must, therefore, in the treatment of these diseases, as in all other cases, test the strength of the patient, and make ourselves intimately acquainted with the state of the disease, and then form our system of treatment upon these indications, adapting it to the circumstances before us. We are sometimes called upon to remove temporary disturbances, sometimes to produce a derivative, sometimes a soothing effect, before we can resort to the treatment necessary for our grand object: for invigorating the organism.

Headache.

By this term we understand a nervous pain in the head. We have already spoken of affections of the head which depend upon congestion, or other diseases, and refer our readers to those chapters. The pain in the head in question is, for the most part, confined to one half of the head, or to one definite spot, and presents itself with a lacerating, pulsating, boring, burning, tense, or obtuse, pressing pain, which frequently increases to such a degree that the patients lose their self-possession. In the treatment of these

diseases, we must endeavour to discover the exciting cause, and to remove it accordingly. Constipation must be overcome by clysters and warming bandages. Excesses in venery, or indulgence in spirituous liquors, should be avoided. Derivative baths must be brought into use, and warming bandages should be applied to parts affected. Very cold foot-baths frequently produce instantaneous relief; and sitting-baths, in which the patient remains for a long time, are frequently of very great service. Women, during the period of menstruation, should not employ these baths, excepting the pain is very violent, and not before tepid foot-baths, warming bandages, and friction with the wet hand, have proved inefficacious. The patients should drink cold water copiously: sometimes they can only bear small potations, which should then be the more frequent. Where all this treatment fails, the patients may resort to head-baths, immersing the part of the head opposite to the seat of the pain into the water: in the worst forms of the disease only, the patients may plunge the portion of the head affected into the water, until the pain abates.

The diet is a point worthy of consideration in these affections. The patients should endeavour to discover which articles of food are detrimental to them, avoiding them accordingly, and all other stimulants. Congenital affections of this kind admit of no radical cure, and we must, in that case, be content to afford temporary relief by the treatment above described.

Spasm in the stomach

presents itself with a gripping, pressing, stringent sensation in the pit of the stomach, (*scrobiculus cordis*,) which is increased by pressure, by shocks, by cold, and by taking food. Sometimes the pain decreases after eating, but it more frequently increases in vehemence on this occasion.

This sensation frequently consists of a feeling of burning or heat referred to the chest, when it is called heart-burn, (*cardialgia.*) Sometimes the region of the stomach is very sensitive, and the patients cannot bear the slightest pressure; they even form the erroneous idea that their own skin exerts a pressure on that region. During an attack of spasm, violent contracted, stringent pains, which continue for some time, appear at irregular, indefinite intervals. These pains cease and make way for fresh attacks. If these accessions of pain arrive at a high degree of severity, the sensation of constriction is referred to the back and loins. The patients sink down and vomit, their hands and feet become cold, and their foreheads are covered with perspiration; the eyes are sunk, the pulse is small and remitting, and, in some individuals, spasmodic contractions of other portions of the body and syncope supervene.

Spasmodic contraction of the muscular coat of the stomach occurs at times without any other disease, and the patients feel themselves in good health, excepting during the attacks, and excepting also that they are inconvenienced by a few symptoms of indigestion or by accumulation of bile, and acidity.

The chief causes of the affection are, deteriorated, indigestible articles of food, as cheese, smoked and salted meat, fat or rancid substances; further, repletion, fasting, hunger, violent mental emotions, grief, pain, and debilitating loss of fluids. Spasmodic contraction of the stomach is frequently associated with hypochondriasis, hysteria, and pregnancy; it may also be a consequence of organic disease of the stomach itself, *e. g.*, of cancer of that organ.

The treatment should be guided by the causes which may be present. If we suspect the spasms to originate in indulgence in indigestible food, and that parts of the ingesta are yet contained in the stomach, copious potations are in-

dicated; and we must tickle the fauces with a feather, to produce vomiting, which should be encouraged by copious draughts of cold water, until we believe all impurities to be removed.

Where substances are ejected, which may have given rise to the spasmodic attacks, and when vomiting produces no further effect, our endeavour must be to produce copious evacuations from the bowels by means of clysters. To facilitate the action of the bowels, the patients should restrict themselves to articles of food in the fluid state until the alimentary passages are thoroughly purified. The same treatment is also indicated in cases where we do not suspect undigested food to be present in the stomach, but where all other means have failed. I once treated a patient for this disease during three months, without making any impression upon the malady. I had no suspicion of indigestible substances remaining in the alimentary canal, as the patient had suffered for five years of the affection, and had frequently taken both purgatives and emetics during that period. As I did not wish to dismiss him uncured, I tried, as a *dernier resort*, the effect of copious potations, and of vomiting. The patient first threw up the water he had taken, and subsequently the ingesta mixed with that fluid. He was urged to persevere in drinking tepid water, and vomiting now continued at short intervals, without the aid of potations, and with such vehemence that the patient trembled in every limb, and perspired at every pore, until at last a plum-stone was ejected. The nausea did not cease immediately after this ejection, but decreased gradually, and left the patient ultimately at rest. He was greatly astonished, and assured me that since the commencement of the disease he had not touched any kind of fruit, much less cherries or plums, in preserve, or in the natural state; that he had always felt a disinclination to these fruits since

the medical men had prohibited him the indulgence in fruit, or other substances causing flatulence. Thus, the causes of disease are frequently not suspected. The patient has now remained during four years free from the former inconvenience.

We have already said, in mentioning the predisposing causes of spasmodic contraction of the stomach, that the affection is not always brought on by deleterious or indigestible articles of food; but even where it arises from other causes, a judicious diet remains the chief consideration.

The patient should take very light food, in small quantity, and at short intervals. A scanty animal diet agrees best with some patients; for others, again, a vegetable diet, consisting of spoon-food, as rice, sago, arrow-root, &c., is found best suited, but they should avoid fat and indigestible pastry. Those patients who are permitted to take animal food, may partake of game, poultry, beef and mutton; but, as we have before said, in small quantities. If the stomach will bear bread, it should be neither too coarse nor too new.

The treatment must commence with water-drinking. The water should be taken in small doses, that the stomach may be able both to warm it, and to digest it. The patients, to lose no time, must drink as often, and as much as the stomach will bear without inconvenience. The beneficial, invigorating effect produced by the potations, is greatly increased by the application of bandages round the abdomen. The patient must wear "umschläge" round the abdomen by day and night, and rub the body twice or three times during the course of the day with the wet hands, without compressing the stomach; and they should, moreover, take exercise in the open air. On this plan we shall frequently succeed in overcoming the disease, espe-

cially if we keep the action of the bowels regular by means of injections.

There are, however, some few very obstinate cases which are only to be cured by critical elimination, by diarrhœa, diuresis, or sweating. It is also necessary, where suppressed hæmorrhoidal discharges are the cause of the affection, to bring on an attack of "piles," and for this purpose sitting-baths will be found the most advantageous remedies. To produce critical perspiration, the patients must be wrapped every second or third day in the wet sheet, and perspire for some time; the envelopment should be followed by a cold ablution. If by these means alone we do not succeed in effecting diaphoresis, we must have recourse to a more stimulating plan of treatment, and employ the douche and friction until we have accomplished our object.

In some few cases we may use derivative foot-baths and sitting-baths as auxiliaries, of course provided they are borne without inconvenience, and do not render the affection worse. The former are to be recommended where the feet are very cold. The sitting-baths should be of very short duration; in the contrary case, they may indeed relieve pain, but will not lead to a cure, and they will rather, by keeping the abdomen for a long time cold, produce more considerable derangement of the digestive organs, if frequently employed.

In the treatment of spasms of the stomach, we have to consider whether the affection may not be a sequence of inflammation of the stomach, or a symptom of incipient gastritis; in which case, we must proceed to the use of treatment necessary for the cure of the inflammation.

Colic

presents itself frequently suddenly, or the accession is occasionally announced by premonitory symptoms, by flatu-

lence, constipation and nausea. The precursors are, however, more frequently wanting. The pain attending colic is sometimes slight; sometimes, however, so violent, that the patients oppressed with the pain and anxiety, completely lose their self-command. The countenance becomes flushed, or perfectly pale, and is covered with cold perspiration; the abdomen is tense, often inflated, and presents during the attack several prominences, produced by the inflated intestines. In the further progress of the disease, vomiting or constipation ensues. The pain frequently remits for a few minutes, but quickly returns. The uneasiness and anxiety increase with the pain, and in the worst cases convulsions and syncope are superadded.

The disposition to colic as to spasm of the stomach also, may be referred to an irritable, sensitive state of the intestines affected, and of the system generally. The exciting causes are the same which would give rise, under other conditions, to inflammation of the intestines; or external and internal injurious impressions; deteriorated and indigestible food; exposure to continued cold or wet weather; loss of fluids; depressing mental emotions, passions, &c. Various forms of this disease are known as inflammatory colic; colic depending on, or complicated with, flatulence, worms, bile; rheumatic and nervous colic. The disease may also depend upon local plethora, and occur as a complication, with hysteria and hypochondriasis. The pain occasionally ceases with evacuation from the bowels, or with the passage of flatus; the attack, however, is sometimes violent, and endures for a long time.

The treatment of cholic must depend upon the origin of the disease. Where gastric impurities are the cause, they should be removed in the same manner as in the treatment of spasm of the stomach: in fact, the whole of the treatment

necessary in the later disease will be required in this affection.

In flatulent colic, clysters must be our chief remedy, for one injection is frequently sufficient to remove the disease. If the injections, even after changing their temperature, be rejected without affording relief, we must lay a simple well wrung bandage over the whole abdomen of the patient, and endeavour to envelop him with blankets or feather beds, as well as we can, considering his restless state. In this manner the body will become thoroughly warm, or perspiration will be produced, and the pain will then be alleviated. The patient must drink cold water plentifully until the termination of the attack, but in small doses at a time.

When attacks of colic are caused by worms in the intestines, we must pursue the same treatment until the pain ceases; and then the patients to rid themselves of these troublesome guests, or at least to obtain ease, must observe a more rigid diet, taking meat and stale bread as food, and nothing but water as a beverage; avoiding at the same time, vegetables, milk, and its preparations, and all kinds of pastry. The patients, must, moreover, wear a bandage round the body, and use two sitting-baths daily, during fifteen or twenty minutes; they should take much exercise in the open air, drinking at the same time plentifully, until the worms are discharged, and the disposition to their formation is eradicated.

In *bilious colic*, the treatment above laid down for accumulation of impurities in the alimentary canal, is indicated.

Rheumatic colic requires for the cure an envelopment in the damp sheet, leaving the arms, legs, and feet free. In this encasement the patient must perspire moderately, drink water in moderate quantities, and the lavements, he must use, should not be quite cold. After every sweating the

patient should undergo an ablution with tepid water, or take a half-bath at 68° to 70° Fahrenheit.

Rheumatic colic is distinguished from other forms of the disease by its protracted course; the pain is also moderate, and the abdomen is soft, and not inflated. Derivative baths, both foot-baths and sitting-baths, are not only inefficacious, but for the most part injurious: our attention must, therefore, be directed to the production of moderate perspiration, which is the safest plan of bringing about a crisis.

In the same proportion as the pains cease, the temperature of the water, in whatever form we may employ it, must be reduced, until the patients arrive at last at the use of cold water.

All the forms hitherto described are, indeed, not nervous complaints: *spasmodic colic* is more closely allied to that series of affections. It originates in augmented sensibility of the intestines, and attacks chiefly passionate, irritable people. This form of colic is distinguished by its tendency to periodical attacks, by its sudden appearance, and rapid disappearance, without appreciable cause; it has, in fact, a peculiar character. This disease frequently yields very soon to the moderate use of cold water, combined with ablutions of the abdomen, warming bandages round the body, and lavements. These remedies are sometimes inefficacious, and the disease prevails, if it be not increased. In this case we must wrap the patient in the wet sheet, and apply a bandage round his abdomen; and the pain will certainly cease, even if he cannot bear this treatment for a longer time than will be necessary to warm him thoroughly, or until perspiration ensue. At times, however, the pain is so violent, that the restlessness of the patient prevents us from producing warmth of the surface of the skin in the manner described, much less diaphoresis: in this case we must have

recourse to tepid half-baths, or cover the whole abdomen with large linen cloths dipped into hot water, restricting the patient, whilst he makes use of these applications, from potations of cold water and cold injections. When the attack is over, cold ablutions, and the use of cold water internally, may be resorted to again. Persons of irritable constitutions should by no means neglect the cold potations; for the use of cold water internally will diminish irritability, and perfectly overcome the disposition to that inconvenience.

Hypochondriasis.

By this denomination we designate a peculiar morbid state of the constitution, during which the individual is very vividly affected by impressions from without, forms erroneous conceptions of the condition of his organism, and of the manner in which the functions of the body are performed, and thus brings on a peculiar morbid state of the mind. Hypochondriasis is based upon a state of excitement, a derangement of the nervous system, which is denoted by numerous changes of various morbid symptoms, by intense attention of the patient to his own state of health, which totally absorbs his mind, and is generally attended by disturbances of the functions of the abdominal viscera. If we were to collect all the symptoms of which hypochondriacs complain, we should offer a very singular description of a disease: their general conversation, which is often endless, consists in the description of the appearance of their tongues, of the state of their appetite, of their diet, and especially of the quality of their motions, their urine, and of the manner in which they sleep. To these descriptions are added, complaints of difficulty of breathing, peculiar palpitations of the heart, delusions of the senses, of sight, hearing, taste, &c. The disposition of these patients' minds is quite as

troublesome to their friends: they are very sensitive, irritable, and peevish, sometimes to an insufferable extent; will tolerate no contradiction, adhere firmly to their prejudices, and look upon every thing in the most unfavourable light. This derangement of the mind frequently alternates with timid representations of futurity; the patients court solitude, and their ideas are fixed on death.

Persons of melancholy or choleric temperament are chiefly disposed to this disease. The exciting causes are: a sedentary life, mental exertion, ungratified desires, onanism, excesses at the table, disturbances in the circulation through the portal system, induration of the liver, intestinal worms, &c.

Hypochondriasis is not indeed a dangerous disease, but it is a very slow and troublesome affection; it sometimes disappears with a change of external relations, with the advance of age, or after the appearances of hæmorrhoidal discharges; but it sometimes progresses to destruction of the mind, or to perfect monomania.

In the treatment of this affection we must be exceedingly sparing of remedies, for which the patients are very anxious; we must not, however, accede to their wishes any more than when they reject all treatment, for at times they will not even observe the rules of diet prescribed, which are the basis of the treatment. We should not only prescribe to hypochondriacal patients what they may take, but must even serve out their allowance ourselves, or else our labour will be in vain, as they all assure us that they have no appetite and can eat nothing, whilst, in reality, they never cease to overload the stomach. We should give them slightly nutritious food, as a little fresh meat and stale dry wheaten bread, and water only as a beverage; for they cannot even digest milk. They must avoid all articles of food which cause flatulence, especially indigestible

preparations of flour and pastry. When we have properly regulated the diet according to the state of the patient, our endeavours must be directed against the disease itself, and for this purpose we must resort to the mode of application of water best suited to their condition, our first attention being directed to congestions in the abdomen.

If the operation of the bowels be tardy, we must endeavour to accelerate their action by clysters, by bandages round the abdomen, and by sitting-baths; the diet should of course be accommodated, at the same time, to the circumstances of the case. We should not allow the patient to drink too much cold water, as it would retard the cure; moderate water-drinking is certainly to be recommended, but the quantity taken should be in accordance with the constitution of the patient.

We must endeavour to bring about hæmorrhoidal discharge, where it is checked, by the treatment we have advised in such cases. Where this will not succeed, we must attend to the general health of the patient; we should console him, endeavour to divert his mind, to draw his attention to employment, and engage him in active pursuits, lead him to occupy his mind with important subjects, and make him, in the most suitable manner, understand the folly of his pusillanimity. We should leave him little rest, keep him continually occupied, and in continual exercise, in ascending hills, if possible, for this is very beneficial; and in his walks he should always have a certain object in view. We must not allow him to take short and fatiguing exercise, and then again to rest, a habit to which these patients feel a great inclination. All stimulating, exciting treatment is objectionable; we must therefore not make use of the douche, nor in winter of cold full baths; it is better to confine ourselves to simple cold ablutions, and in summer to prescribe river-baths and moderate wave-baths. We should

occasionally allow the patient to perspire moderately in the wet sheet; where the skin is not active, we may employ the envelopment frequently, until the natural action of the skin is brought about. The bandages round the abdomen and clysters we may persevere with for a long time, even where the body is naturally open. These patients are at times very excited, and scarcely to be calmed; in these cases tepid half-baths, in which the patient must remain for a long time, are very beneficial, for they will, generally speaking, moderate the excitement. If these baths should not produce the desired effect, cold affusion will be found of great service; but these remedies must be discontinued as soon as the patients are somewhat soothed, in which case we are to return to the former treatment.

During the whole course of treatment, the patients must avoid every occupation requiring mental exertion, and should be allowed to pass but a short time in the house. Even if the weather be inclement or rainy, so that we have some difficulty in inducing them to quit the room, we must yet endeavour to keep them in the open air, taking care that they are clad in a manner suited to the season, and that they wear stout boots, in order that they may fulfill their duty without injury. They should never be allowed to remain long in bed, least of all in feather-beds, and certainly never in summer time, when the morning hours are the most agreeable and best adapted for exercise. Where the patients will not always walk, we may allow them occasionally to ride or drive. Occupation in gardening or agricultural pursuits, is very beneficial. In wet weather the patients may saw wood, take gymnastic exercises, play at skittles or billiards. If the patient be fond of reading, we may furnish him with cheerful, amusing books, but but should never allow him to sit up reading at night, least of all to read in bed. A journey may be recommended

where circumstances will permit the patient to travel; but he must not fatigue himself or travel by night; he should rather divide his journey into short stages, and occasionally make a pedestrian tour.

Hysteria.

By this term we understand several nervous affections to which women are subject, denoted by augmented irritability, morbid sensations in the abdomen, spasmodic attacks commencing in the throat, and appearing in a variety of forms, and generally attended with distnrbance of the uterine functions. The state of mind of hysterical patients, is very different from that of hypochondriacs; whilst the latter live in continued anxiety about the state of their body, and thousands of erroneous ideas are passing through their minds, the former feel themselves unhappy and deserted, without sympathy in the world; they complain of grievances they have suffered, of unfortunate and ill-requited attachments. Ungratified desires are often the cause of hysteria; onanism less frequently gives rise to the affection; but without these causes, irritable and passionate individuals may be very much affected by the vexation which they suffer in their attachments, and become subject to the disease. In most cases, the state of mind of the patients is as we have described, but they know well how to conceal it. At the same time, or rather at a later period, disturbances of the uterine functions present themselves; menstruation becomes irregular, or there may be disorganization of the uterus or ovaries. The patients, moreover, complain of symptoms which are really present, but which they greatly exaggerate.

When the nervous affection has attained a certain height, the following symptoms are mostly observed: every trivial event causes excessive fear, trembling of the limbs, (*tremor*,)

and palpitation; various mental emotions prevail, spasmodic contractions of various and peculiar forms appear, which generally proceed from the uterus, as may be perceived by peculiar movements in that region; the muscles of the abdomen occasionally contract, sometimes internally, sometimes externally; a sensation is experienced as if something rose from the abdomen into the throat, causing spasmodic deglutition, and a peculiar swelling of the throat which impedes respiration. The spasmodic action is rarely confined to this part, it generally attacks the limbs also, distorting them in a remarkable manner, so that the patients are violently convulsed. Where the brain is implicated, consciousness is lost, and the attacks resemble those of epilepsy, or delirium ensues.

The patients suffer, besides these affections, from symptoms of remitting or continued peculiar head-ache, which is frequently confined to one spot, producing a sensation resembling the driving of a nail into the head, (*clavus hystericus*,) from indigestion, spasms of the stomach, leucorrhœa, &c. The duration of the separate attacks is variable; sometimes they last for a few minutes, frequently for several hours, even for one or more days. Hysteria is generally a protracted disease, but it frequently disappears with certain functional changes; in girls after marriage, in women after conception, and when menstruation is restored, &c. Hysteria may terminate in death by suffocation apoplexy, consumption, or dropsy.

This disease, as its name sufficiently implies, being derived from Ὑστέρα (uterus,) is peculiar to women; it is generally based upon an hereditary predisposition, and frequently runs through families for several generations; it seldom shows itself before puberty, mostly between this time and the period of cessation of menstruation. A delicate weakly body, irritability of the nervous system, pre-

cocious development and desires, favour the early appearance of the disease. The exciting causes are ill-requited love, jealousy, irritability of the organs of generation, precocious development of the mental faculties, a sedentary life, indulgence in reading novels, which excite the imagination and feelings; frequent converse with men; excited and ungratified passions; suppressed menstruation.

The treatment must be guided by the causes and symptoms; the former should be as far as possible removed,—the latter must be opposed by suitable treatment. Where there really is cause for grief, and afflicting circumstances depress the patient's mind, we should endeavour in every way to alleviate her position; we should especially evince participation in her sorrow, listen patiently to her complaints as an interested and consoling friend. Patients under these circumstances should, if possible, visit their friends and relations; frequent watering places, or, better still, hydropathic establishments, where they will soon acquire—with the judicious use of cold water and with the enjoyment of cheerful society, combined with exercise in the open air—a more favourable state of mind, and learn to turn their attention to other subjects. Marriage should be permitted to girls where this is possible. Dysmenorrhœa we must endeavour to overcome by the treatment prescribed when speaking of that disease. If the patient be chlorotic, we must combat this disease by the treatment before mentioned, and by suitable regimen. Leucorrhœa, or hæmorrhage, must be resisted, for a cure will be impossible unless we overcome these evils.

When all these disturbances are removed, we must adopt a sedative and tonic mode of treatment. The patients must then wash the whole body once or twice daily, with cold water at first, and more particularly where there is great irritability, with tepid water. The irritability of the skin

should be allayed by the envelopment in the wet sheet, repeated every second or third day, the patients remaining in the encasement until they are thoroughly warmed; as an exception only, and where, namely, no symptoms of congestion appear, they may await moderate exhalation from the skin in the envelopment. If slight diaphoresis afford great relief, we may continue to provoke perspiration in the manner described; but we must be very cautious, or we shall excite the skin to increased sensibility. One or two moderately cold sitting-baths, of twelve to fifteen minutes' duration, will be of great benefit; but rubbing the spine with cold water, followed by friction with flannel or horse-hair gloves, will prove even more efficacious. In some few cases we may employ the douche every fourth or fifth day, for four or five minutes. The stream should be chiefly directed to the spine, hands, and feet. Half-baths at 66° to 73° Fahrenheit, in which the patient remains during ten or fifteen minutes, whilst two persons apply friction to the body, appear to be very beneficial. During the intervals between the attacks, we should adopt all these modes of treatment, varying them according to the circumstances of the case.

Where hysteric attacks are complicated with constipation, we must meet this inconvenience with the use of lavements, which should be at first tepid, and afterwards of cold water. Congestions of the head and chest are to be combated by derivative sitting-baths, the parts affected being covered by warming bandages, or subjected to friction.

The greatest difficulty we have to contend with in this affection are the spasmodic attacks, because the mode of treatment indicated can only be imperfectly carried into practice during the paroxysms. We must commence with friction, with the hands dipped into cold water, and should subsequently use the dry hand, or a piece of flannel; where

this friction will not suffice, we must resort to tepid half-baths, during which, the rubbing should be continued without interruption. This mode of treatment will generally succeed; there are, however, cases which obstinately resist these endeavours, and on these occasions I have found cold affusion continued for half a minute, or one minute, of most service. After the operation the patient should be conveyed to bed, and covered with a woollen blanket. Reaction quickly takes place, and the patients become thoroughly warmed, exhalation will frequently ensue, and the irritability is then allayed. It is impossible to lay down definite rules of treatment for a disease varying so much in its symptoms as hysteria; but I may confidently assert, that patients may expect more benefit from a course of treatment by water, conducted with caution and guided by experience, than from any other mode of treatment. If it sometimes happen that the cure be not radical, or that the patients derive relief only from the hydropathic treatment, their nervous system is at least less impaired by pure water than by opium, musk, valerian, camomile, camphor, cantharides, alkalies, prussic acid, assafœtida, and other drugs,—the arms with which this disease is generally combated.

Epilepsy

is denoted by convulsions, during the paroxysms of which the whole body, and the extremities in particular, are distorted and tossed about by violent spasmodic movements: —both sensation and consciousness are lost. The attacks come on with or without premonitory symptoms. The precursors are giddiness, stupor, sensation of weight, and pain in the head, *tinitus aurium*, *photopsia*, a staring vacant eye, tremor of the eyelids, stuttering speech, a sensation of rushing and roaring of water in the head, palpitation, flatu-

lence, &c. There is frequently before the attack a sensation, as if something were detached from the heart, or some other situation in the chest, proceeding rapidly towards the head, (*aura epileptica :*) in this moment consciousness is lost, and the convulsion begins. Sometimes the accession is preceded by a mere uneasiness of mind, or the patients are depressed, or irritable.

The convulsions more frequently supervene without any premonitory symptoms, and the patients fall with a scream senseless to the ground, as if struck with apoplexy. The head is tossed about, and beats with violence against the ground; the countenance is distorted, it is of a purple colour, and horrible to behold; the mouth is drawn; the patients grind their teeth, and bite their tongues; the mouth is covered with froth, frequently mixed with blood; the eyes are moved convulsively, or are rigidly fixed—the pupil is dilated and contracted alternately; the arms are contorted and tossed with violence in a certain direction; the thumbs are generally drawn in towards the palm of the hand; the hands are clenched; the feet are distorted, and convulsively moved; breathing is impaired; the patient groans with a peculiar tone of voice; the beat of the pulse and of the heart is irregular; the urine and motions are frequently voided involuntarily. When these symptoms have endured some time, they cease with frequent cough, attended with the passage of mucus or with vomiting, and then consciousness returns.

The duration of the fit is variable; in slight cases it lasts for two or three minutes; more frequently, however, the fit continues during ten minutes or a quarter of an hour, rarely for half an hour. The paroxysm may come on before the senses have returned; this, however, is only in severe cases. After the fit, the patient generally sinks into a profound sleep, from which it is not easy to wake him;

the pulse becomes regular, respiration more free, and perspiration generally ensues. Where the fit was severe, the patients, on waking, remember nothing of the occurrence, or feel themselves weary, sleepy, or peevish, and complain of an indefinite affection of the head. I have met with several interesting cases, where the paroxysms were not complete, and the patients were then in a state of somnambulism. A man, aged twenty-four, who was subject to epilepsy, but otherwise healthy, had several of these attacks both by night and by day, in a period of two or three days, during the time the moon was at the full. When the fit was incomplete, and the patient, although affected by a giddiness, did not fall, he was not in possession of his senses for ten or twenty minutes; he would then undress himself after his usual custom, and retire to bed for a few seconds, rise again immediately, dress himself, fetch his stick and walk out. His countenance was flushed, his mien dark and morose, and he was careless of all that passed around him. When accosted by any person, his answer was generally apt, but he continued his route undisturbed. I observed him several times during these paroxysms in his chamber; he collected his clothes, and packed them up in due order in his portmanteau and carpet-bag, looked into every corner of the room to leave nothing behind him, took his stick, and said to himself, "Now all is right! Francis, (this was his servant,) take this luggage to the coach-office, I can now leave!" and accordingly he quitted the apartment. Whilst he was packing up, I sat quietly in his room; he passed me frequently, but did not speak to me, for my presence did not seem to disturb him. The last time I had the opportunity of observing him, I put several questions to him; the first and second he answered correctly, but with displeasure; at the third question, he gave me, by incoherent words and evident signs of displeasure,

to understand that he did not wish to be disturbed in his occupation, but neither looked at me when I spoke, nor when he answered. In a short time I directed a fourth question to him, but received no answer,—he had finished his packing, and set out upon his journey again.

A lady aged thirty-two laboured under the same affection, with this peculiarity, that after an incomplete attack she would walk out, whether she was dressed or not. It frequently therefore happened, that she would rise in the night, open all the doors, and sally forth in her night attire. The most remarkable part of the affair was, that if she had a fit in the night, and nobody observed it, she would walk out, let it be dark or not, although her daughter and ladies'-maid slept in the same room with her. If her daughter stood before the door she would protest against this proceeding in the German language; if her maid prevented her egress, she would scold her in the Sclavonic tongue; she recognised either person, even when the room was so dark that objects were not to be distinguished, and she would speak in the language which the one or the other understood, even if they did not address her. The daughter did not understand Sclavonic, and the maid was unacquainted with German.

In the course of epilepsy we observe many changes. The attack sometimes terminates with convulsions, or a fall in a few seconds; but sometimes it presents itself with all its horrors and symptoms. When the paroxysms remit for some time, several attacks rarely follow each other. Occasionally the fits appear after a long interval, especially at the commencement of the disease; sometimes again after three months, or monthly, or weekly, or daily, and occasionally several fits occur in the same day. I have known cases in which the patients did not regain their senses for twenty or thirty hours, attack following attack in rapid succession.

The paroxysms ordinarily increase in a ratio with the duration of the disease. The first attacks are commonly the slightest; subsequently they become more violent; the reverse is but rarely observed.

Epilepsy is, generally speaking, a protracted chronic disease, it rarely terminates in a few months, and for the most part continues at least one year, often during life. On entering a new epoch of life it frequently ends in recovery, *e. g.*, at the periods of puberty and of menstruation, with the passage of worms, critical sweats, &c. Changes of the moon and seasons, and in women the menses, exert a considerable influence over the disease; but paroxysms may be brought on at any period by passion, anger, errors of diet, &c. As sequences of the disease, we may mention an alteration of temper, which may become morose or choleric, loss of memory or judgment, subsequently idiocy, to which may be added, tendency to apoplexy, paralysis, consumption or dropsy.

Epilepsy may be congenital or hereditary. Persons with irritable nerves and of excitable disposition are most subject to this disease; as also those who labour under determination of blood to the head. Amongst the exciting causes, we may reckon concussion of the brain, fracture, or other injuries of the skull, a *coup de soleil*, excessive mental exertion, cerebral tumours, indurations, and excrescences, suppressed habitual discharges, worms, poisons, excess in venery, masturbation, fright, amenorrhœa, suppressed hæmorrhoids, perspiration of the feet, cuticular eruptions, gout, &c.

The prognosis of epilepsy is by no means favourable; although the disease seldom proves fatal, the cure is attended with many difficulties, and succeeds but rarely. Our chance of effecting a cure is most favourable where we know the cause of the disease, and can remove it, *e. g.*, in

cases of suppressed menstruation, suppressed gout, hæmorrhoids, perspiration of the feet, cuticular eruptions, which may be re-produced; but even under these circumstances the disease must not be of long standing, nor attended with disorganization. Priessnitz believes epilepsy to be incurable, and the whole herd of his blind adorers are of the same opinion, and even those who pretend to the most experience in hydropathy silently assent to this view; but in this manner they prove the deficiency of their practical knowledge of this new system of treatment. It appears to me that the question must suggest itself to every body who has but the slightest knowledge of hydropathy: "Why should a disease originating in a suppression of other affections, which may be recalled, be incurable?" In our system of treatment we have a peculiar method of exciting perspiration, a very powerful means of re-establishing a suppressed disease, as is confirmed by the many successful cases communicated in this work.

The treatment of epilepsy should be guided by the causes of the disease. Suppressed discharges, menstruation, &c., which may be the origin of the disease, must be re-produced. We must endeavour to remove worms. Mechanical irritation, injuries, &c., will require surgical aid.

Our endeavour must be to prevent the occurrence of the fits, or to modify, at least, their frequency. This is certainly only possible where the paroxysms are periodical, and are preceded by premonitory symptoms. As alteratives, we may use wet, cold bandages, covering the whole head, and tepid foot-baths; copious cold potations, and cold lavements. Where these will not succeed, sudden affusion with cold water is sometimes beneficial. In employing the latter remedy, we certainly occasionally bring on the attack, instead of preventing it. During the paroxysm we have nothing to do but to guard the patient against injury. We

must never allow the patient to be forcibly held, or his thumbs to be forcibly bent outwards; but we should leave him undisturbed on the ground, placing blankets under his head, and under those members which are violently tossed about, inserting at the same time a piece of cork between his teeth until the fit is over. Nor should the patients on any account be disturbed in the sleep which follows the paroxysm, or they will remain for a long time exhausted and uneasy.

Where we are not able to discover the cause of the disease, we cannot pursue a definite plan of treatment, and should try all the applications of cold water, retaining those in use, which we find most serviceable. It is best to commence upon a soothing plan, and proceed after persevering with it for some time, to sweating, followed by cold ablution, if necessary. If we succeed in producing a soothing effect, derivative foot-baths and sitting-baths may be combined with the former treatment. Water-drinking is, under all circumstances, an essential point, in whatever way we may employ the water externally; but the potations become of more importance where the patients are subjected to sweating. Where the exhalation from the skin is tardy, we may have the whole body rubbed once or twice daily during several minutes with horse-hair gloves; and if this proceeding will not succeed, we may employ a slight douche during four minutes, on every third or fourth day.

Where the foregoing treatment is ineffective, stimulants and periodical shocks are indicated. The patients should then take a cold full bath for four or five successive days, in the morning, and use affusion with several buckets of cold water twice or three times in the course of the day, or subject themselves to a powerful douche. After these shocks have been continued for several days, we should allow the patient an interval of rest. If we know the pe-

riod of the return of the fits, we should choose the few last days before the attack for the foregoing treatment. Where the paroxysms are increased by the change of the moon, the use of stimulants should be resorted to at the time of the new moon. We may commence about the period at which the moon is at the full, (at which time the attacks generally occur,) with slight stimulants, and gradually increase them to the period of the new moon, and then decrease them again in the same order.

If the stimulating treatment be not of much benefit, we at least become acquainted in this manner with the character of the disease, and frequently discover the hidden cause —a point of great importance in the further treatment, as I shall hereafter demonstrate.

Cold clysters and foot-baths, followed by powerful friction, are of material service to those individuals who suffer from determination of blood to the head after every mental emotion. Sitting-baths of long duration are occasionally very practicable, but in rare cases only. That derivative applications should only be employed in the interval between the fits, requires no comment.

We must pay attention to all changes which occur during the course of treatment, even when they appear but trivial, especially if we are not certain of the cause of the disease, for they frequently afford indications for the future treatment. Patients must, in every respect, observe a rigid diet, and should undertake no occupation which excites the mind, or produces a shock or excitement of the nervous system. Where an infant has inherited the affection from the mother, the child must be suckled by a healthy nurse. The diet of epileptic patients should be slightly nutritious, and consist rather of vegetable than of animal substances. The enjoyment of pure air with moderate exercise, is to be

recommended; but we must caution patients against immoderate exertion followed by sudden rest.

In conclusion, I will mention a few successful and well-authenticated cases:

Maria P., aged twenty-two, of bilious diathesis, choleric temperament, and small but robust frame, had suffered from all the usual diseases of infancy, without ulterior consequences, and had menstruated in her fifteenth year. During her period of menstruation, three years after this, a neighbour's house was struck by lightning during a storm. The girl was alone in the house, and, as we may easily conceive, was greatly terrified. In the ensuing night she suffered an epileptic attack, which returned every month at the period of her menses, but she remained otherwise in health. After the parents had resorted to every remedy in vain, during four years, they determined at last to make a trial of the water-cure, and placed their daughter under my treatment accordingly. My endeavours were, of course, directed towards the regulation of the functions of the uterus, which had been irregularly performed since the accident had frightened her. I succeeded in reproducing the menstrual discharge in the second month after the commencement of the treatment, but made no impression on the disease, which pursued its usual course. At the period of menstruation in the ensuing month, the patient vomited frequently in the night. Determination to the head, and oppression of the chest, of which she had suffered, now ceased; but the head-affection returned after several hours, with so much violence, that the patient became from this time senseless, and cooling bandages were of no effect. In lucid moments the patient complained of deafness and stoppage of the nose, to relieve which, she blew her nose until it bled, and then the congestion ceased. This time the convulsions were not observed, and menstruation

continued moderately for three days. In the following months she was troubled indeed with slight determination of blood to the head, but never was the subject of another epileptic attack, and is in the enjoyment of perfect health.

A master tailor, aged thirty-five, of weak constitution, who had suffered in his youth from scrofula, was attacked in his twenty-sixth and twenty-seventh year by two very obstinate paroxysms of gout. After the lapse of a year, he felt himself again very ill in the autumn—the period at which the attacks of gout had occurred—and believed he was about to undergo an accession of the same disease; but after experiencing loss of sleep, headache, giddiness, sudden contractions of the limbs, stiffness of the neck, pain in the back, especially in the sacrum, he suffered his first epileptic attack one morning after his wife had waked him. From this time the fits returned at indefinite periods, but so frequently, that he seldom passed four weeks without an attack.

About eight years after this period, the patient, who had taken innumerable drugs to no purpose, came to me to try the water-cure. As I could not detect the exciting cause, I subjected him during the first four weeks to a soothing and alterative course of treatment, but without success. I now proceeded to provoke perspiration, but the sweating proved inefficacious, though the sudorific process was persevered with during five weeks. After the lapse of this time, the patient began to complain of contraction and stiffness in the arms, which changed in seven days to a dull pain in the region of the sacrum. I prescribed the use of sitting-baths in the river, enjoining the patient to allow the waves to impinge chiefly on the part affected with pain. In five days' time, on the thirty-second day since the first indisposition we mentioned, the patient told me that he had passed a quantity of blood with his motion in the morning,

and the evacuations from this time contained traces of blood for several successive days. During all this time the patient had suffered but one fit, and he has remained free from epilepsy ever since, but he has discharged blood by the anus at certain periods.

In 1837, I had under my treatment a clergyman, aged thirty-six, of very irritable constitution, who was troubled with two epileptic fits every month, and, besides this, by periodical spasmodic pains in the abdomen. He complained more especially of a dull oppressive sensation in the region of the liver, of loss of sleep, of anxiety, with an inclination to weep, and of constipation. Several days after he had commenced the water-cure, he felt exceedingly excited, was very uneasy, and complained of pain and sense of oppression in the stomach, and of diarrhœa. In the night before the purging made its appearance, complete jaundice was observed, and was attended to its termination by all the former symptoms. By sweating in the wet sheets, followed by ablutions and by the use of cold water in suitable forms, all these symptoms gradually disappeared, and the epileptic fits did not return. I at first thought that the patient had taken cold, as he was very excitable, and the weather happened to be wet; but he remained six weeks in the establishment after he was quite recovered, and I had ample opportunities of observing him. The convulsions, which had occurred every fourteen or twenty-one days, did not return, and have not shown themselves since, according to the last account which I received from the patient.

In the spring of the year 1841, I had under my care a robust, plethoric girl, aged twenty-two, who suffered from epilepsy, without appreciable cause. Menstruation was regular, but one day, sometimes two days, after the cessation of the discharge, she was troubled by two or three severe epileptic fits. The patient underwent the foregoing treat-

ment, (which I generally adopt,) with many variations, but without success. I had already determined to dismiss her, if a second trial of the stimulating plan of treatment should prove as ineffective as the first. Before I formed this determination, I must not forget to mention that she had complained one morning of violent colicky pains, continuing for several hours after the bath, and of nausea, which terminated in vomiting. A few hours after this, complete jaundice presented itself. The patient now complained of pain in her right side, of giddiness, and headache, preventing her from raising her head; to these symptoms were added, augmented temperature of the surface, and discharge of high-coloured urine. The headache first disappeared; but to the pain in the region of the liver, troublesome flatulence was now added, which could only be diminished by copious sweating in a wet sheet. The jaundice, with its concomitant symptoms, disappeared gradually, and in three weeks' time the patient felt perfectly well; and the most favourable circumstance was, that she has never suffered another attack.

If I were not fearful of tiring my readers with histories of cases, I could relate several in which a cure was effected by recalling suppressed eruptions to the surface. We may take it for granted, as a general rule, that, on an average, one out of four of these patients may certainly be restored to health: this I can assert to be the conclusion I have arrived at from experience, deduced from a number of these cases.

It may happen that the convulsions, after disappearing for a time, will be reproduced by one of the known exciting causes; but this is only the case where patients are weak in mind, and deficient in self-command. It is certainly true that the fits will occasionally remit at the commencement of the treatment, and return with increased violence; but this irregularity continues only for a short time, and

then the attacks appear again as before; if, therefore, the treatment be unsuccessful, we need not be afraid of rendering the patient's position worse. It is a well-known truth, that epilepsy assumes a more malignant character the longer the disease endures.

Chorea

is a chronic disease, which resembles epilepsy in many respects, and though of a slighter character, may terminate in the latter affliction. If chorea be attended by premonitory symptoms, they will consist of a capricious humour, or depression of spirits, of vertigo, palpitation and formication in several limbs; but the disease generally commences with convulsions, which present themselves with spasmodic contractions of the muscles of the face; rapidly alternating contractions of various muscles of the body, producing those peculiar movements whence the disease has acquired the name of "*St. Vitus's dance.*" The patients sometimes move their arms in a circle, or in other directions, bend the fingers, or contort the upper part of the body in various ways; or the legs may be affected; and they will throw the feet about, walk backwards or forwards, with singular motions, or turn themselves in a circle like a person dancing.

During the attack most patients are in full command of their mental faculties; at times, however, they are but partially in possession of their senses, and they then live in a kind of dream, laughing and talking, although they are not sensible to external impressions. The fit occasionally endures from four to five minutes, sometimes, however, during a whole hour, after which time the involuntary movements cease, and the patient falls asleep or perspires, and feels very much fatigued, as in cases of epilepsy.

Chorea is a disease of youth, and occurs chiefly between

the fifth and twelfth year; it either disappears of itself, when the patients enter on a new period of life, or passes into more serious nervous affections. The attacks may occur at definite or indefinite periods, but the affection rarely continues during the whole term of life. Girls of delicate frame, and weak nerves, are predisposed to the disease until the period of puberty, and even during that time. Irritable temper, precocious development of the organs of generation, masturbation, may be the exciting causes, as also worms, fright, anger, suppressed cuticular eruptions, and habitual discharges.

The treatment of chorea resembles that of epilepsy. During the fit we have only to defend the patient from injury. After the attack, we must endeavour to discover the cause, and, if possible, to remove it; thus, we must prevent onanism, regulate the action of the bowels and the menstrual discharge, remove worms, and endeavor to restore receded eruptions to the skin. Where we have not to contend with a cause yet in operation, a copious use of cold water internally, cold ablutions, and affusions, river and wave-baths, will suffice to overcome the disease; provided these remedies be employed at the right time, and judiciously adapted to the constitution of the patient. The patients, must, moreover, observe a rigid regimen and diet, and take much exercise in the open air. By this simple treatment, I restored amongst others, a girl to health who had suffered very severe attacks. The parents, who were opulent, had resorted to every remedy which is recommended for the cure of chorea, not excepting the operation of trepanning, but without effect.

Vertigo.

During an attack of giddiness, the patient's sensations are as if all surrounding objects were turning round, or oscil-

lating; to this symptom are added defective vision, double vision, or discoloration of objects, dimness of sight, and ringing in the ears. Severe cases terminate in vomiitng or fainting

Vertigo is rarely an idiopathic disorder, but generally a symptom or consequence of other diseases. The common causes are general plethora, congestion, or organic lesions of the head, injuries of the skull, concussion of the brain, exhaustion of vision, various potent odours, repletion, congestions in the abdomen, constipation, suppressed hæmorrhoidal discharge, and eruptions of the skin, and general debility. Hypochondriacs, hysterical women, and persons recovering from nervous affections, are moreover subject to giddiness.

The chief indication in the treatment is to remove the exciting cause. Disturbances in the abdomen, and constipation, must be overcome; worms should be removed; suppressed cuticular eruptions, or discharges, we must endeavour to re-produce; determination of blood to the head, we must treat in the manner above described. The patients must avoid overloading the stomach; should not wear tight cravats; and should observe a rigid diet. Where we can neither detect the cause, nor remove it, we must have recourse to derivative foot-baths and sitting-baths; the former to be used once, the latter twice, daily, according to the directions we have given for their employment. Sometimes bandages, applied at the same time to the head, will be necessary. In cases of severe continued giddiness, tepid half-baths, friction, and cold ablutions of the head will be very serviceable.

Where giddiness terminates in fainting, or loss of consciousness, cold affusion is indicated. The patient should be conveyed to bed after the operation, and well covered, to produce moderate perspiration, and then the attack will generally cease. Violent palpitation, as a concomitant of

vertigo, is best combated by warm foot-baths, and cold bandages to the chest. During all this treatment we should give the patient frequently cold water to drink, but only in small doses.

A slight degree of vertigo, to which weakly, excitable persons are liable, may generally be prevented, if the persons thus afflicted wash the whole body with cold water in the morning, take a cold foot-bath for a few minutes daily, wash the chest and neck with cold water at bed-time, wear occasionally a wet bandage round the body, and court the open air.

Where vertigo depends upon organic lesions, it cannot be radically cured, but we may afford temporary relief by derivative baths.

Asthma.

The course of this disease with children is variable; its character differs from the ordinary course of the affection in cases of adults. In the latter, the accession comes on suddenly in the night; the patient is waked by violent constriction of the chest, and spasmodic contraction of the larynx; he frequently scarcely knows how to obtain fresh air, rushes out of bed, and tears the windows open; he can only breathe in the standing or sitting posture, assisting the muscles of respiration, and expanding the chest by stretching forth his arms; a whistling, hoarse sound is heard at the same time in the larynx. The attack generally lasts during a few minutes, but occasionally for several hours, and terminates in a gradual disappearance of the symptoms, with slight cough and expectoration.

In the commencement of the affection these attacks are experienced during several successive nights; remit for a long time, even for several years, but return, sooner or later, at definite or indefinite periods. Where the disease

is far advanced, the paroxysms are seldom absent during twenty-four hours, and generally recur at midnight, or immediately after that time.

Certain premonitory symptoms are generally observed during the day preceding the attack. The patients are excited, and experience a pain at the back of the head, passing along the neck downwards, between the scapulæ, and are troubled with tympanitic distension of the abdomen, &c. At first, the patients feel themselves well in the intervals of the attacks, subsequently the general health gradually suffers. They now experience more or less difficulty of breathing after the fit, until the tightness of the chest (*angina*) becomes permanent; and, lastly, cough and expectoration of mucus, or purulent sanious sputa, are added, and the disease changes to phthisis or hydrothorax, or a lesion of the heart or of one of the large vessels becomes the cause of death.

Asthma occurs chiefly in persons of excitable nerves, in the bloom of youth, and is more common to men than to women. It may be brought on by any circumstance which exerts a debilitating influence directly on the lungs, as running, screaming, or blowing. Protracted catarrhs, violent hæmorrhage, receded eruptions, gout, hæmorrhoids, and damp cold residences may all cause asthma.

The conditions under which the cure may succeed are the following: if the patient live in damp houses or neighbourhoods, he must change them for a more healthy residence; if his occupation be such as obliges him to inspire irritating vapours, *e. g.*, of oxydised metals, and if he cannot avoid inhaling them, he must at least discontinue his occupation until the disease is removed. Suppressed cuticular eruptions and hæmorrhoids must be reproduced, according to the rules before laid down. If occult gout be the cause, we must endeavour, by stimulating the skin by

powerful friction, by very cold ablutions, and, if possible, by the douche, to produce a state of vascular excitement,—a kind of acute gout,—or we must bring about critical diaphoresis or diuresis, to which the disease will sometimes yield.

Where all these attempts fail, the patients must drink cold water assiduously, and sweat in the wet sheet every second or third day, performing afterwards a cold ablution; washing must also be resorted to every morning immediately after rising. In the course of the day, the application of bandages round the chest may alternate with several cold ablutions. During the night the patient must wear a bandage round his chest, guarding it with dry ligatures, or suitable articles of clothing. Patients should also take much exercise in the open air, endeavouring to walk a certain distance, which may be increased from time to time. Walking on rising ground or up hills cannot be too strongly recommended, as the lungs are thus brought into considerable action. The diet must not be stimulating, and the patients should not eat suppers, but should drink cold water plentifully. Before retiring to bed they must immerse the soles of their feet, for several minutes, into very cold water, and rub them with a horse-hair cloth, until they are thoroughly warm.

If these foot-baths, after a certain time, lose their effect, we may make use of derivative sitting-baths for a short time, provided they do not increase the spasmodic attacks. In women they frequently produce this effect, and then they must of course be discontinued. Friction between the shoulder-blades and on the chest is of great service; it occasionally produces boils, which we must endeavour to encourage for a time.

Asthma in children presents symptoms differing essentially from those observed in the adult: they resemble at

first those of croup, and are distinguished from the latter by an absence of fever, by the circumstance of their not being preceded by catarrhal attacks, and there is no hoarseness in the intervals between the fits. Asthma generally occurs in weakly, sensitive and plethoric children; it is seldom preceded by premonitory symptoms. Where the latter are present, they are confined to a peculiar ringing cough, which comes on towards the evening. The spasmodic fit wakes the children suddenly from their sleep towards midnight; they roll about restlessly on the bed, and sit up when the difficulty of breathing commences. They grasp around them with their hands in the fear of suffocation. Respiration is attended by a whistling hollow sound; the face becomes pale, the eyes are prominent, the hands and feet are cold. The attack may last from one to ten minutes, and terminate in cough, nausea, and expectoration of a viscid mucus. The children then fall asleep, and awake in the morning in perfect health.

These fits remit for several days; the more frequently they occur and the more violent they are, the longer the disease will endure: the attacks at last appear at day-time.

The treatment of this form of asthma presents great difficulties, especially where the children are young, and the accessions recur frequently. As the cause of this disease is generally exposure to wet or cold, we must provoke perspiration by the wet sheet in the intervals between the paroxysms, and subsequently wash the children with cold water. Where the children are very young, this is not practicable on account of their low temperature; we should, therefore, lay a simple bandage of very fine linen over the chest, and endeavour to excite diaphoresis by covering them well. If we succeed, we must wash them with moderately cold water, but convey them to bed imme-

diately after the ablution, to produce moderate exhalation from the skin, and to encourage its activity.

The sweating is to be repeated daily, until we may conclude that no fit will again present itself—at least during eight or twelve successive days. The younger the children, the warmer must be the water used for the ablutions; the more advanced they are in age, the colder it should be. Patients who are of maturer age should wear a bandage round the chest; very young children must be washed frequently about the chest, and use tepid foot-baths. The action of the bowels we must promote by tepid clysters, and offer the sufferers frequently cold water to drink.

During the attacks very little can be done. Where the children are in danger of suffocation, we must rub their chests with cold water, brush the soles of their feet, and give them even a cold clyster. Where respiration actually ceases, we must resort to the means for restoring animation, and persevere with them for a considerable time.

Hooping Cough (*Pertussis*)

is a violent, convulsive, spasmodic cough, attended with a peculiar whistling sound, and generally terminates in endeavours to vomit, or in actual vomiting.

This disease is generally divided into three stages: the catarrhal stage, the stage of hooping, and the stage of the decline of the cough. These periods, however, are by no means well defined, the transitions being almost imperceptible.

The disease commences with catarrh, which is of uncertain duration; and a few days—occasionally a few weeks—may transpire before the true character of hooping-cough is observed. The symptoms at first resemble those of a common cold, but the cough soon becomes more violent, with a metallic sound, and increases towards the morning

and evening, and appears more violent every other day; the rest of the children is disturbed: and to these symptoms fever is added.

In this manner the spasmodic cough increases. Before a fit of coughing, the children become restless, anxious, and look after a place to sit down, or run towards the parents to grasp them firmly. After this presentiment the tempest rages—the cough is rapid, short, attended by a peculiar sound, and with short expirations, which are immediately again interrupted by inspiration. These symptoms are frequently repeated during the fit. Whilst the children are in this state, all the muscles are thrown into tremulous, convulsive motions; the face becomes blue; a flood of tears issues from the eyes, and blood gushes occasionally from the nose and mouth; the pulse is reduced and tremulous; the feet and hands are cold, and the skin is covered with cold perspiration. The paroxysm terminates with spasmodic contractions of the muscles of the pharynx, and vomiting of mucus with the contents of the stomach.

The accessions recur once or several times in the course of the day; more frequently, however, in the night. Occasionally the cough is so frequent, that the patients have not an hour's rest; it is produced especially by exertion, anger, and indulgence in certain articles of food. The health of the patients varies in the intervals between the attacks. They occasionally feel themselves quite well, respiration is free, the pulse quiet, the appetite is good, and the children are inclined to play; more frequently, however, the patients are indisposed; they lie in bed with flushed cheeks and short respiration, attended by a whistling sound and mucous *râle*. These symptoms are especially observed where the disease is of long standing.

The third stage commences when the cough decreases in

violence, and is no longer metallic; when respiration is more free; when the fit is not followed by vomiting; and when the skin is disposed to exhalation. The latter symptom may be regarded as critical.

The duration of hooping-cough is generally six weeks or two months; but, under unfavourable circumstances, or where the children frequently take cold, it may be prolonged to twice that time, and leaves, for the most part, affections of the lungs, lesions of the heart and large blood-vessels, goître, affections of the brain, loss of memory, hernia, epilepsy; or it may terminate in death by croup, pulmonic lesions, extravasation on the brain or lungs.

Hooping-cough is peculiar to children; adults being in very rare cases only affected by it. The disease originates in a peculiar state of the atmosphere, and may even become epidemic. Opinions are yet divided regarding the mode of propagation of the disease; but many substantial reasons favour the opinion that it spreads by infection; it is, therefore, at all events advisable to separate the healthy from the infected.

No method of treatment has hitherto succeeded in checking or interrupting the course of hooping-cough. The disease will always run through its usual stages; a judicious course of water treatment, however, appears capable of breaking through the chain of morbid symptoms, viz: where we can produce critical perspiration or eruption of the skin at an earlier period than that at which they usually present themselves.

The production of these favourable symptoms may appear hazardous to those who hold the opinion that nature should be left to effect every crisis; but it is proved by experience that patients recover with the water-treatment in six weeks, in whom a crisis cannot be produced before the usual time; and we may thence conclude, that the water

cure neither prolongs hooping-cough nor leads to morbid sequences.

The whole treatment should tend to prepare the skin for a crisis; and the intervals between the attacks are best suited for this preparation. Envelopment in the wet sheet, followed by cold ablution, is best adapted for this purpose. Whilst the patient is in the encasement, he must be watched incessantly by a person sufficiently powerful to raise him, together with the envelopment, whenever a fit of coughing supervenes. It is best to hold the child in the arms or on the lap until the fit is over, and then it should be put to bed, and remain there until perspiration ensue. In some cases diaphoresis is at first tardy, and our utmost endeavours prove unsuccessful; we must, therefore, not attempt to force perspiration. The children, under these circumstances, should not remain longer than three hours in the envelopment. A change of sheets will not be required unless the fever be very violent. Great caution is necessary in administering potations to the patients whilst undergoing the process of sweating, to avoid bringing on the cough; if the fit supervene, potations must not be administered.

As long as the attacks continue, and critical symptoms do not appear, the envelopment must be persevered with, once in the course of the day, and we should wash the whole body of the patient with cold water once daily, and rub him afterwards with flannel. If the cold water taken internally act as a stimulant, and excite cough, we may warm it by plunging a bottle filled with water into hot water; but we should attend as much as possible to the water-drinking, because the potations promote diaphoresis. As long as we do not observe a crisis, we may wash the chest and neck with cold water, and alternately apply warming bandages, covered with dry cloths, or a belt, to

adapt them closely to the body, and prevent the access of the air.

Where the patients complain of soreness in the throat, we must offer them, from time to time, cool mucilaginous drink. For violent determination of blood to the head, cooling bandages and tepid foot-baths are indicated. The action of the bowels should be promoted by clysters.

As soon as a crisis is observed, it does not signify whether by perspiration or eruption on the skin, the envelopment, ablution, and bandages must be discontinued immediately; for irritation within the body decreases and ceases with the appearance of perspiration, or with the development of an exanthema; and it is, moreover, necessary to avoid every interference which might impede nature in the process of elimination of morbid matter. The eruption, which is of frequent occurrence, during this treatment, bears a striking resemblance to scarlatina, as many physicians have observed.

Where the foregoing treatment is brought into operation at an early period, the disease is frequently checked in its development, fails to run through its ordinary stages, and no crisis ensues. Even where this favourable termination does not happen, we frequently accelerate a crisis, and shorten the duration of the disease. Where we are not successful in this respect, (which will be rarely the case,) we shall yet have gained; for even if the disease run through all its stages, we shall at least avert morbid sequels.

Tetanus

is a disease of rare occurrence in our climate. This affection is denoted by an involuntary and continued spasmodic contraction of the muscles of the head, throat, and neck, or of the trunk, and of the extremities. The spine and neck

become rigid, the head is bent backwards, and to these symptoms are added giddiness, dimness of sight, difficulty of breathing, palpitation, and spasm of the stomach. The intervals between the paroxysms vary. During the attack, the patient's body is rigid, and stretched out in a straight direction, or drawn backwards (*opisthotonos,*) or forwards (*emprosthotonos,*) or to either side (*pleurosthotonos.*) The rigidity is attended with violent pain; the countenance is pale, and covered with cold perspiration, whilst the rest of the body retains its natural heat; respiration is difficult, speech is impaired, and consciousness is partially or completely lost. These exacerbations generally continue for a few minutes, in rare cases during half an hour. The attacks then cease, leaving a dull sensation in the limbs for a length of time.

Tetanus is generally complicated with other diseases. The most frequent causes are, wounds implicating nerves and tendons, lacerations and contusions, fractures, injuries, (in which a foreign body remains in the wound,) colds, potent poisons, suppressed hæmorrhage, loss of fluids, concussion of the brain or spinal chord, and violent mental emotions.

In the treatment of tetanus, our attention must be directed towards the removal of the primary disease, if, indeed, the tetanus be not idiopathic. If we succeed in curing the original affection, the spasmodic contractions will generally cease. Foreign bodies must be removed from the system, suppressed affections should be reproduced.

During an exacerbation, little or nothing can be done. Cold affusion, half-baths, and friction, are the only remedies which we can call to our assistance. After having adopted one of these processes, we must convey the patient to bed, and endeavour to bring on perspiration by sufficient covering. The intervals between the exacerbations must

be employed in enveloping the patients in wet sheets. The patient should perspire but slightly, and perform an ablution afterwards with cold water. The quantity of cold water taken internally must depend upon the constitution of the individual, but the potations should be as copious as possible; in addition to this treatment, we may rub the body frequently, and apply warming bandages to parts chiefly affected with spasm. Every mode of employing cold water which is attended with loss of time is injurious; the shorter the time required for the application, and the more frequently it can be repeated, the more beneficial will be its action. In obstinate cases, we may resort to cold plunging-baths, cold affusion, and even to the douche; but the body must become thoroughly warm before we repeat any one of these applications. The douche and friction should be chiefly directed to the spine. Half-baths are of essential service for the relief of spasmodic contraction; but the temperature of the water must be at 64° to 73° Fahrenheit. As long as the patient is in the bath, he must be rubbed by two persons continually, whilst water of the same temperature is to be poured over him. Where an injury is the cause of tetanus, the wound must be kept moist with wet bandages, applied, if possible, in the course of the nerves implicated.

Lock-jaw (*trismus*) is brought on by the same causes as the former disease, and requires the same treatment. Where children are affected with trismus, we must never forget to inquire into the cause, which may be, gastric irritation, produced by acidity, worms, &c. Where we have detected a cause of this nature, we should endeavour, as soon as the spasmodic contractions cease, to purge the body by clysters, by copious potations, and bandages round the abdomen. To prevent the generation of worms, the patients must observe a rigid diet, and they should eat little;

the food should consist of meat and slightly stimulating substances; milk, and preparations of flour, are to be avoided; the patients should, moreover, drink cold water copiously, and pass much of their time in the open air.

Delirium tremens.

Where this disease is ushered in by premonitory symptoms, they will be observed to consist of loss of appetite, loss of sleep, confusion of ideas, and general debility. The accession generally presents itself with delirium. The patients are prepossessed by one idea, of which they cannot divest their imagination. For the most part, they believe themselves to be pursued by men or animals, or by creations of their own imagination. They fancy themselves attacked, especially at night-time—hence their inclination to leap out of bed. The majority of the superficial muscles of the body are in constant motion; sleep is totally lost; the countenance is pale; the eyes are bright, and vacantly fixed; the tongue is moist; the skin hot, and covered with a clammy, fetid perspiration; the region of the liver and stomach is swelled; there is slight thirst, and the action of the bowels is disturbed.

This disease is, generally speaking, of short duration; an attack may extend to ten or eighteen days; and is brought on by the immoderate indulgence in the use of brandy and other spirituous liquors.

The chief point in the treatment, is to purge the alimentary canal by copious water-drinking. If vomiting ensue, it must be encouraged by perseverance in the use of cold water internally; where there is no vomiting, we must produce purging by the use of clysters and bandages round the abdomen. When the alimentary canal is thoroughly cleared, we should wrap the patient in wet sheets, and apply at the same time cold bandages to his head repeatedly. The

patient should remain in the envelopment until diaphoresis ensues. The sooner perspiration appears, the oftener the sheets may be changed, but five or six repetitions in the course of the day should suffice; for, by changing the sheets very often, too much heat will be abstracted from the body. Immediately after the first envelopment, the patient must be subjected to an ablution with cold water and conveyed to bed, if he feel exhausted. The bed should be kept clean and well aired. Where there is considerable determination to the head, as the continuance of delirium will indicate, it will become necessary to persevere with the cooling bandages to the head; warming bandages to the abdomen afford also great relief in these cases. To prevent the patient from escaping, the doors and windows must be well fastened; for if we attempt to restrain him by coercion, his state will be rendered worse; we must, therefore, snatch those moments when the patients feel most composed in the early stage of the disease, for the use of the envelopment.

These patients are very quickly brought to their senses by a judicious use of cold water. At first, they are certainly much exhausted, but fall asleep the sooner, and sleep must be regarded as the true crisis. The longer the patients sleep, the sooner they will recover; they occasionally continue in this state for twenty or thirty hours without once waking; nor should their rest be interrupted if they do not wake for a longer period, as this proceeding would certainly prove injurious.

I have frequently succeeded in curing this affection in a very short time, within twenty-four or forty-eight hours. Our chief endeavour should be to wean the patient of the baneful habit of intemperance, which is not an easy task. We must keep these patients at least during one year under very strict surveillance, and firmly deny them the use of all

intoxicating liquors, and totally disregard their representations and entreaties. Exhortations, earnest representations, and reproaches, seldom suffice to keep drunkards from their unmanly, immoral propensities; they will frequently entreat us, on their knees, to indulge them in their habit for once, promising at the same time to abstain during the remainder of their lives from drinking; but be not misled by these idle phrases; for if we listen to them for once—but once accede to their wishes—they will become more impetuous in their requests, and where prayers are of no avail, they will resort to threats. We must remain firm and unmoved, nor should we rest until we have totally crushed their vicious propensity. It is for this purpose necessary that we should have the drunkard in our command, or we shall not succeed. He must never have money at his disposal, or be trusted with the management of his own affairs; for he will sell and pawn every thing to gratify the ruling passion.

Mental diseases.

This expression appears at first sight erroneous; for we are not certain whether the mind is capable of disease. I think the term "affections of the mind" would be more correct, as the action of the mind only appears to be impaired through the instrumentality of the body. Mental disease is evinced by a variety of symptoms, by errors of the imagination and of judgment, by folly, and a prepossession of the mind with one particular but erroneous idea —melancholy, with timidity, misanthropy, hypochondriasis;—mania with delirium, and increase of muscular strength;—idiocy, debility, or total loss of mental power.

The prognosis of mental affections is attended with difficulty, even when the aberration of mind is confined to one particular object, and where the individual is otherwise

rational, as in monomania. The same applies to those slight cases, where the complaint appears to be temporary. The disorder may terminate in total or partial recovery, or by the supervention of other diseases, as of idiocy, cuticular eruptions, boils, gout, hæmorrhoids, phthisis pulmonalis, epilepsy, &c. Where the disease terminates fatally, death will be caused by apoplexy, consumption, or dropsy.

Mental affections are often hereditary, as we know by experience; but a melancholy choleric temperament will predispose to aberration of mind. The more passionate the individual, the more inclined he will be to mental disease. These affections are known to assume an epidemic character; they are therefore more frequent at certain times, and more rare at other periods. They are most frequently met with in certain grades of society and in certain districts, where the influence of climate seems to favour the disease, *e. g.*, in England. The exciting causes are said to be violent passions, masturbation, excess in venery, fright, vexation, joy, grief, envy, jealousy, anger, sorrow; more frequent causes are, ambition, and ill-requited love, disappointment, continued vexation, immoderate mental exertion, especially with a sedentary life; deep reflection upon mysterious religious subjects, scruples of conscience, and fanaticism. Mental affections are moreover brought on by the abuse of spirituous liquors and narcotic drugs, by congestion of the head, suppressed hæmorrhoids and cuticular eruptions; by mechanical injuries of the head, by a fall or blow; with organic lesions of the brain and parts adjacent.

The medical man must not depend upon physical treatment for the cure of mental diseases, but must judiciously combine suitable mental treatment with the former. The first point will be to detect the remote cause.

Where repletion or congestion in the abdomen is the

cause, we must endeavour to overcome the difficulties, and to purify the body by diet, by copious potations of cold water, by the occasional use of clysters, by bandages round the abdomen, and by sitting-baths of half an hour's or one hour's duration. When we have cleared the alimentary canal of all impurities, and have restored its normal action, we may expect the functions of the nervous system to become regular, and the mind to find its level. Besides derivative sitting-baths, cold stimulating foot-baths, cold ablutions, and friction of the whole body are indicated.

Suppressed cuticular eruption and menstrual discharge, we should endeavour to restore by the treatment necessary in these diseases.

Congestion of the head we must combat by warm foot-baths, and by wet cooling bandages to the head, where the cold foot-baths are not sufficiently active. The bandages must be kept cold by repeating them frequently; they must be persevered with for a long time to produce the desired effect.

The envelopment in the wet sheet is very beneficial to nervous and debilitated patients, as also are bandages to the head, cold ablutions, and moderately cold half-baths. The patients must remain in the envelopment until they are well warmed, but not until they perspire. It will be seldom necessary to change the wet sheets, except the patient become thoroughly warm in a quarter or half an hour, when they may be renewed twice or three times. It is best to wrap the patient in the envelopment in the forenoon and afternoon of the day.

In several forms of mental affections, violent excitement of the skin by cold ablutions with water, kept at a temperature of 39° to 42° F. by means of ice, and frequent friction with horse-hair gloves, are of very great service; but

these ablutions must be performed at least three or four times in the course of the day.

In cases of mania, where the patients are much excited, we must have recourse to cold affusion, and to Sturz-baths. With the use of these applications we must persevere, more or less, and repeat them according to the degree of vascular excitement. We may, indeed, produce a sedative effect upon the system by placing the patients in a cold half-bath, or full-bath, retaining them in it by force; but the preceding treatment deserves the preference, as the long duration of these baths, which is occasionally required to compose the patient, produces great disturbance of the abdominal viscera, and frequently causes considerable exacerbation. Where affusion and Sturz-baths are employed to compose the patients merely, it will not be necessary to repeat them until the patients become again excited, and rave; this exacerbation may occur every four or five hours, or more frequently, every day, or every other day, or after longer intervals.

Where affusion is to serve the purpose of a remedial agent, we must use it at the commencement, if the patient be much excited, three or four times daily, and continue it each time until he is quieted. Subsequently, when the patients are more composed, two affusions daily will suffice; but we should at the same time employ the wet sheets and derivative sitting-baths and foot-baths, according to the circumstances of the case, or according to the degree of restlessness observed. With the potations, we have frequently much difficulty, as the patients obstinately refuse them. Lucid intervals are to be employed in water-drinking; they occur chiefly immediately after affusion. I by no means advocate forcible infiltration of water; for if we watch the patients well, we shall always succeed in inducing them to

take water in some shape or form; the quantity of water taken, will of course be larger on one day than on the other, and sometimes it will amount to nothing. It is further imperatively necessary to remove excited patients, as far as possible, from all sensual impressions, and from everything that might excite them. We must even occasionally render every voluntary movement impossible by the strait-jacket, keep the room dark, and remove all objects with which they could hurt or injure themselves; or we must, at least, render them harmless, *e. g.* pad the walls, &c.

The mental treatment is of great importance, but not every practitioner is experienced in this respect. The physician must, above all things, endeavour to gain the confidence of his patient, which is no easy task. The maniac should live in the firm conviction that the physician is his friend; that he can cure him, and will succeed; and that the medical man, moreover, has his welfare at heart. The tendency of the psychological treatment must be to subdue the patient to obedience. The physician must exert perfect command over his patient, whose will should be subordinate to that of the former. To habituate patients to blind obedience is a very difficult task, but it is imperatively necessary, as they are given to opposition, and endeavour to carry out every preconception with astonishing obstinacy. We must, therefore, on no account, give way to the patient's demands, even in the most trivial things, excepting they resort to entreaties, and their requests are of a harmless nature. In the treatment, we must insist upon the strictest punctuality, and see that all our orders are executed to the minute, as if success alone depended on this regularity. Beside the proceedings absolutely necessary in the treatment, we must keep the patients during the whole day occupied in the open air, if possible; for idleness is the commencement of folly, and its greatest promoter.

The occupation, which we enjoin as auxiliary, should be accommodated to the rank and character of the maniac: thus, the proud man must feel himself debased, the timid and dejected exalted. The corporeal exercise in the open air must preponderate over mental exertion, even where the latter is necessary. The patients are most readily engaged in these occupations, by assuring them that, unless they perform their duties punctually, they cannot expect a cure.

If we observe that the patient has a decided aversion to any particular occupation, we may substitute some other amusement, and thus endeavour to please him with novelties. Monomaniacs suffering with illusions we must endeavour to deceive: the best plan is, to enter into their erroneous views, and exaggerate them even, until the patients of themselves understand that their judgment is incorrect, and at last abandon the erroneous idea.

The medical man should know how to act according to circumstances and accidents, and proceed in the manner best adapted for the accomplishment of his object. Lunatics should only be received as an exception into hydropathic establishments, and only such patients as are harmless and create no disturbances. I have succeeded in curing several young women and two young men, cases of idiocy and mania; at other times, again, my endeavours have failed. The two young men perfectly recovered in a very short time; the one was under my care in 1836, the other in 1839.

The youngest of the two, J. T., from B., aged twenty, was tall in stature, of weak constitution, and of choleric temperament. He had suffered all the usual diseases of infancy, and had enjoyed, in his youth, good health, excepting that he had laboured under a few scrofulous symptoms. He had studied, and, according to the account of his relations, was a very studious and industrious young

man. On the 18th of April, 1839, after having exerted his mind immoderately, he showed the first symptoms of mania. His parents, who were wealthy people, had the best medical advice in the town of B. The patient was subject to periodical attacks of violent delirium. After the physicians had tried the effect of bleeding and antiphlogistic remedies during six weeks in vain, the patient was placed under my care on the 8th of June, in the same year.

As the patient was perfectly deranged, and at times became violent, Dr. A. M. had the care of him, and was assisted by two powerful keepers. According to my directions, M. attended to the performance of affusion, alternating with the envelopment in the wet sheets in the lucid intervals, with great punctuality. After the lapse of nine days, the patient, in his moments of sanity, frequently endeavoured to escape; I cautioned the doctor, therefore, to be on his guard, especially at night time; and he not only had the windows and doors well fastened, but removed all the patient's clothes very carefully, and placed him under the continual surveillance of one of the keepers. After many a vain attempt at flight, the patient appeared to have relinquished his determination to escape, and as he became daily more sensible, M. was less strict in watching him.

Taking the advantage of the less rigid inspection, the patient stole, one evening, when every body was asleep, into the servant's room, and, as his own wearing apparel was locked up, dressed himself there, in the clothes of a servant, unbolted the window, and escaped. When M. and the attendants rose in the morning, they found, to their astonishment, that their charge had escaped; they immediately set out in pursuit of the fugitive in various directions; but did not succeed in discovering a trace of their friend, much less in securing him. This circumstance

soon became known to the visitors of the establishment, and they all assisted in the search after the young man, but four days passed in fruitless inquiries after him.

Late in the evening, on the fourth day, Prince Lichtenstein's Suisse brought the fugitive back. On the previous night, he had crept into the lodge, and had been observed by several persons. The Suisse had followed him, and asked him what he had to do there, but received no answer to his question. He had passed the night in a place to which the Suisse had conducted him, but was quite as taciturn on the next morning; he had neither demanded anything to eat or to drink, nor made any other request.

On the following afternoon the mystery was solved. A few patients from Gräfenberg had visited the "Schweizerei" in their rambles. When they heard of the strange guest, they begged to be introduced to him, and recognized the deserter F., whereupon, as I before said, he was brought back to me.

We, of course, imagined that the patient would be very hungry, for he had taken no food for a length of time, and had performed a journey of more than four German miles, but we were deceived in our opinion; nor did he demand food on the ensuing days. The treatment was immediately continued, and we had the pleasure of seeing F. progress rapidly towards recovery. In two months' time he was perfectly restored, but I kept him a month longer at the establishment, in order to be certain of the cure. He now returned to his studies, but contrary to my wish; the other medical men, however, advised it, and I acceded, and, at least, to my knowledge, he has not suffered a relapse.

Although this case presents nothing of interest, I have related it to prove how cautious we must be to prevent these patients from escaping. The case of a noble Polish young lady, Mlle. von B., who was also under my care, is more

interesting; but unfortunately she was dismissed uncured. During the first six weeks of treatment the patient gradually improved, and I held the opinion, with all the other patients, that she would perfectly recover. Suddenly, however, the aspect of affairs changed, without the slightest cause. She began to resist my orders, and the bath attendants were obliged to suffer many a box on the ears, &c. The most remarkable part of the history is, that the patient refused all food. I made several attempts to force her to take nourishment; but this proceeding presented great difficulties, and the relations would not consent to this treatment, as she became exceedingly violent, and ejected every thing again. Exhortations were in vain; she abstained first for one week, then passed eight weeks and four days, without food or drink. On the last day of this period I visited her in the morning, and attempted, according to my custom, to induce her to take food, but was answered by a negative sign. I now told her that she must die on that day, and advised her to take a little soup or milk to moisten her mouth and throat, which must be very dry, as it would render death more easy. This *ruse* had the desired effect, and she gave me to understand, by signs, that she would take something. I now fed her with five spoonfuls of milk, but she immediately vomited. In half an hour's time I repeated the dose, with a better result, for she now retained the milk. About a quarter of an hour after this she demanded, with violence, several glasses of this fluid: I of course refused; giving her as much only as her stomach, in that weak state, could bear. From this period she again took nourishment regularly; but the disease prevailed, and I was at last obliged to dismiss her uncured. It is very singular how this disease inures the sufferers to heat and cold, to hunger and thirst. The patient above mentioned had not passed a motion, although lave-

ments had been used, during sixty days; during which time she had also neither taken food nor drink.

Tabes dorsalis.

This disease is divided into three stages: the stage of irritation, that of paralysis, and that of fever.

In the first stage the patients feel excessively weary and exhausted after every slight exertion; are greatly inclined to venery, and are subject to emissions with every trivial excitement. By these frequent evacuations the semen is altered in quality, becomes aqueous, and loses its peculiar odour. The patients frequently experience a sensation resembling the passage of warm water down the back, or at least complain of an uneasy feeling of formication in the dorsal region. In the course of time the legs and back appear emaciated; the mind becomes weak, especially the memory and judgment; and the disease passes into the second stage.

On wet and cold days, the patient, in walking, now makes the discovery that he cannot place one foot in the situation he wishes: this symptom disappears and recurs again, until his gait becomes at last impaired, and the feet become so weak that the patient cannot place them on the ground, much less stand upon them. The paralysis sometimes extends to the bladder and rectum, and may be attended with total impotence. In some cases the superior part of the body retains its vigour for a long time after the inferior extremities have become paralyzed. Paralysis occasionally extends rapidly to the superior portion of the body, and the patients become blind.

When the disease has progressed thus far, hectic fever supervenes, which is denoted at first by a burning sensation in the palms of the hands, especially towards the evening. Men are more subject to this affection than women;

and it appears in the period between the eighteenth and fortieth year.

At the head of the causes of this complaint we must place masturbation, which brings it on more rapidly, and is far more injurious than excessive coition. Then we may mention as its causes: colds, violent hæmorrhage from the rectum or urethra, and inflammation of the spinal chord.

When the disease has arrived at the termination of the second stage, and the third stage begins, hydropathy will be of no benefit, and will not even afford relief. I have had opportunities of observing more than sixty cases in various stages. The more rapid the course of the disease, and the younger the individual, the more unfavourable will be the prognosis. For the cure of this affection, hydropathy merits the preference above every other method of treatment; an assertion which is proved by the fact, that I have at least arrested the progress of the disease in ten cases, where the most powerful internal and external remedies, the moxa and potential cautery, had been resorted to in vain; and I have afforded in every case relief, although I have not always succeeded in effecting a perfect cure. The action of the bowels, in several of these cases, became regular spontaneously; in others, an occasional clyster was required. The mental faculties of some patients improved.

If hydropathy can benefit patients in a far advanced state of the disease, how much more might we expect from the treatment by water in the first stage of the affection. The majority of those patients who sought relief at Gräfenberg and Freywaldau were already in the second or third stages of the disease. One single individual, Baron von S., from Berlin, came to us whilst the disease was progressing towards the second stage, and, in his case, the

cure was complete, although he was guilty of many errors of diet.

As long as the patients are in the first stage, they must avoid every excitement which might produce emission. When we are convinced that it is the patient's firm determination to co-operate with us, we must order him to wash the organs of generation, and the back, frequently, in the course of the day, with cold water; to take, occasionally, sitting-baths of short duration, and to apply bandages to the perineum; the latter should be frequently changed, or they will stimulate, and produce a contrary effect to that desired. In the night the patients must wear a bandage down the spine, and wash the organs of generation with cold water (which should stand ready for the purpose) as soon as they are troubled with erections; or they must take a sitting-bath, and drink cold water. If the patients persevere with this treatment for a few weeks, we may reckon with certainty upon diminishing the irritability of the organs of generation, and the continuation of the treatment will cost them less trouble. The use of the sitting-baths and bandages may at the same time be somewhat limited.

Where hæmorrhoidal bleeding is the cause of tabes dorsalis, the former must be moderated by sitting-baths; the water, however, should not be quite cold, or it will check the discharge suddenly. The operation of these baths may be aided by wearing bandages round the abdomen. If the action of the bowels be tardy, and the fæces indurated, we may resort to clysters; they should be at first tepid, subsequently cold.

Where hæmorrhage proceeds from the urinary organs, the bandages must cover the whole region of the kidneys, and "umschläge" should also be applied to the perineum. The spine should be washed from two to four times in the

course of the day, with cold water, and the patients must drink cold water plentifully.

The diet of the patients should be nutritious, but not stimulating. We must keep them from exposure to heat, and not allow them to sleep in feather-beds. They should lie lightly covered, on hair or straw mattresses.

When we have in this manner succeeded in allaying the irritability of the organs of generation, or modified hæmorrhage, we must wrap the patients in a wet sheet once daily; they should remain in the envelopment until they are thoroughly warm, and then wash the body with cold water. The ablution must be repeated several times in the course of the day. In summer time wave-baths are an admirable remedy, and may be used twice daily. From this period the patients should take more exercise, and remain, if the weather be fine, during the whole day in the open air; a slight douche may also be directed to the spine and extremities every second or third day. Where neither wave nor foot-bath can be obtained, the patients must bathe at least once daily in a bathing vat or other large reservoir.

A judicious course of hydropathic treatment will, at least, afford relief to patients in the second stage. The disease will be arrested, and the passage of urine and fæces facilitated; and, if we can effect thus much, the patient's state of mind will improve. The latter improvement, however, is less certain. The treatment consists in the employment of cold ablutions, sitting-baths, and of the envelopment in the wet sheet, to be continued until the patient becomes warm; in the use of clysters, and of moderate potations. These various remedies must be accommodated to the strength of the patient. River and wave-baths may also be resorted to, where the opportunity offers itself: they may be taken once daily in summer, and in mild weather. A moderate douche is also a beneficial remedy, where the

patient is not too much debilitated, and may be employed every third or fourth day.

Paralysis.

This term implies a loss of the power of motion in the muscles of the whole body, or in single parts; a state, therefore, differing materially from loss of motion in consequence of stiffness, distortion, or anchylosis of joints.

Total paralysis deprives the whole body of sensation; partial paralysis is of more frequent occurrence; *e. g.*, paralysis of one side, (*hemiplegia ;*) or of the upper, or more frequently of the lower extremities, (*paraplegia.*) Paralysis is occasionally confined to single organs, as to the lungs, the rectum, the bladder, &c.; it sometimes comes on suddenly, at other times gradually and insidiously; in the latter case, a sensation of frigidity, numbness, formication, and tremor, is experienced in the part threatened with an attack. A paralyzed limb is cold, flabby, emaciated, or anasarcous.

The predisposition to paralysis is denoted by a certain debility, diminished irritability, checked or suppressed vitality of certain parts. The exciting causes are, diseases or injuries which diminish or destroy the power of motion. Pressure on the cerebral and spinal nerves will produce paralysis, which always results when these nerves are injured, or pressed upon by accumulations of blood or other fluids, or are violently stretched or lacerated, in cases of *exostoses*, or of curvature of the spine. The nervous influence is moreover weakened, or totally destroyed by various other injurious impressions: by loss of blood, effusion on nervous matter, by loss of semen, want of food, diarrhœa, the use of various drugs, exposure to the poisonous vapours of lead, mercury, arsenic, &c.

Paralysis is frequently incurable, or the cure is at least

attended with difficulty. Hydro-therapeutic treatment may be resorted to with some chance of success as long as an occasional sensation of itching or pain is yet perceptible in the paralyzed limb, or a slight degree of mobility still exists in the part affected. The paralyzed patient must be wrapped every morning in the wet sheet, and should remain in that position until he is thoroughly warm; the envelopment must be followed by an ablution. Where the patients are not too weak, they may perspire in the envelopment every third day; they must also wear warming bandages on the parts affected, where this proceeding is practicable. A wave-bath, if possible, should be taken every other day, and alternate with a douche. The action of these baths will be greatly increased if we have the patients well rubbed with horse-hair gloves for a few minutes before the bath.

In cases where the bladder or rectum are affected, cold sitting-baths and cold clysters are indicated in addition to the douche. Where the wave-baths or douche cannot be obtained, cold affusion must be resorted to, the stream of water being directed to the parts affected. The treatment in paralysis should tend to excite and invigorate; cold water, therefore, must be used at short periods, but frequently. Our chief endeavour must be to increase the action of the skin; hence, the patients should not be debilitated by sweating, nor by the use of derivative baths; but we must endeavour to strengthen them by friction and cold ablutions. Where the skin is dry or brittle, this inconvenience is to be met by the envelopment in the wet sheet.

The internal use of cold water must depend upon the constitution of the patients; but they should drink as much as possible, excepting the paralysis affect the urinary organs, which would be debilitated to a greater extent by the water. If, in the course of this treatment, an eruption

present itself on the part affected; or if we observe its temperature to increase, or reaction, or even exhalation, to have taken place, these will be very favourable symptoms, and should excite the patient to persevere with the treatment, as considerable relief may be thence expected. In every thing that relates to diet the patients must conscientiously perform their part: they should take much exercise in the open air, avoid excesses of every description, and confine themselves to mild, nutritious food.

Apoplexy.

This disease is denoted by a sudden loss of consciousness, sensation, and voluntary motion. Apoplexy is generally sudden in its attacks: if it be attended by precursors, they will be—headache, giddiness, ***tinitus aurium***, a red bloated countenance, violent pulsation of the temporal and carotid arteries, stammering, nausea, spasmodic contractions of the muscles of the face, an irregular pulse, uneasy sensations at the back of the neck, and great anxiety.

In an attack of apoplexy, the patients fall suddenly, and are senseless; the breathing is difficult, and stertorous; the mouth is covered with foam; the pulse and beat of the heart continue, but unequally; the eyes are prominent and fixed; the countenance is covered with cold perspiration; the hands and feet are cold.

Death may ensue in a few minutes after an attack, or in a few hours, or it may be delayed for two or three days: the disease may, however, terminate in perfect recovery, leaving paralysis, sometimes of the half of the body, (***hemiplegia***,) but more frequently of single limbs or organs; or disturbances of the mind, and general debility, may also be its sequences.

Plethoric, robust persons, with a large head, and short, thick neck, are predisposed to apoplexy. The disease occurs

most frequently between the fortieth and sixtieth year of life, and is brought on, or favoured, by the following exciting causes: imflammation of important viscera, of the brain in particular; nervous diseases; lesions of the heart or large blood-vessels, causing disturbances of the circulation; debilitating, depressing passions; considerable loss of blood, and other fluids.

The treatment of this dangerous disease is no easy task for the most experienced physician; the non-professional reader should, therefore, never venture to undertake the treatment. Where medical aid cannot be immediately obtained, the following rules should be observed: in the first place, all the wearing apparel must be removed, and the patient must be placed in the sitting posture; a few buckets of cold water should then be poured over him, whilst several persons rub his body continually. If vomiting ensue, it must be encouraged, by administering to him at first tepid, and subsequently cold water. Clysters should be immediately used. When the patient is somewhat restored, he must be enveloped in the wet sheets, to perspire. The sheets should not be closely adapted to the body, least of all confine the neck. The patient must lie almost in the sitting posture in bed, and requires careful watching, that we may be able to afford him the necessary assistance in case of another attack. With the second accession, he must be immediately removed from the sheets, and subjected again to friction and affusion. If the desired perspiration appear, it should be encouraged, if possible, for some time, and we must administer cold water to the patient, provided he can swallow. When the patient is removed from the envelopment, every thing should be in readiness for a rapid ablution, in order that we may return him quickly to bed, and cover him well up; for it is imperatively necessary to keep up the action of the skin. If the

patient improve considerably with this treatment, we may repeat it every twenty-four hours until he is able to leave his bed. The envelopment in the wet sheet must be subsequently continued once daily; the patient, however, need not perspire, but should merely remain in the sheets until he becomes warm. Where the skin is very dry and brittle, and evinces but little activity, the patient must sweat again every third or fourth day; and the parts chiefly affected must be covered with warming bandages, rubbed, and frequently washed with cold water. If the parts do not acquire their perfect activity by these proceedings, the douche must be brought into application, and the whole of the treatment necessary in paralysis.

Fainting (syncope.)

Fainting is a well-known malady, denoted by a certain diminution or total suspension of consciousness, sensation, motion, respiration, and circulation. A severe form of fainting, the total suspension of all the evidences of vitality, but where life continues, is called suspended animation, (*asphyxia,*) in common parlance "a trance." Fainting is sometimes preceded by precursors, viz: weariness, a disordered head, vertigo, dimness of sight, palpitation, nausea, anxiety, and pallor of countenance.

The duration of a fainting fit is, generally speaking, confined to a few minutes; the patient then recovers with sighing, the passage of flatus, with vomiting, or evacuation of the bowels, and the warmth of the body and the colour of the countenance then gradually return.

Hysterical or hypochondriacal persons, and patients suffering from congestions, are most subject to fainting.

The first point in the treatment of syncope, is to remove all articles of clothing which confine the body, as tight cravats, waistbands, and garters.. The patient must then be

placed in the sitting posture, and sprinkled or washed with cold water, until the fit is over. To diminish the predisposition to fainting, the body should be washed daily with cold water, and the patient should drink nothing but pure cold water, avoiding all warm narcotic beverages, and should, further, take much exercise in the open air. Clysters are likewise indicated.

Apparent death is only distinguished from actual death, by the absence of symptoms of decomposition: of the cadaverous odour and of the blue or green spots on the skin. Persons, apparently dead, frequently retain consciousness, feeling, and especially the sense of hearing, for several days; but they are totally incapable of moving or of giving other signs of life.

The causes of *asphyxia* are various, viz: exposure to deleterious gases, carbonic acid gas, the air in sewers and cellars, where new fermenting wines are deposited; difficult parturition, constriction of the air passages; it is also the effect of continued violent cold, &c.

The first attention must be paid, in the treatment of the half-dead, to the removal of all wearing apparel, and to procure them pure fresh air, especially in summer time. Our next proceeding must be to pour cold water upon them occasionally from a certain height; they should then be well rubbed and brushed by several persons, the pit of the stomach and the soles of the feet more particularly: we may also endeavour to inflate the lungs, and use clysters. Where all these attempts are fruitless, we may tickle the fauces with a feather, and try a warm bath, especially in cases of hanging, stangulation, and of drowning.

Persons in a state of torpor from cold, should be laid on snow in a moderately cold place, and the whole body should be covered with snow; and where this is not to be obtained, they should be immersed into cold water, leaving the mouth

and nose only free; in this bath the patients must remain until symptoms of life are observed. They are then to be conveyed to an unwarmed bed, and the whole body must be rubbed with flannel, but cautiously, to avoid injury to the skin. When animation returns, cold water must be administered to the patients until they can assist themselves to drink. Frozen limbs, or parts affected by frost, should be treated with snow or cold water, and with foot and hand-baths; bandages and ablutions may also be brought into operation. Where open sores or ulcerations are observed, we must use water of a higher temperature, to heal them.

APPENDIX.

On the Formation of Hydropathic Establishments.

The many fortunate cures performed by cold water have been the cause of the formation of a considerable number of hydropathic institutions. Many of these establishments but partially answer their purpose; many, again, are totally defective. In several establishments a running stream is wanting, or the little water contained in the wells is totally unfit for general use. The cause of these defects may be traced, in many instances, to the circumstance, that deserted houses, manufactories, or chateaux in partial decay, are selected for hydropathic purposes. Edifices of this description should, no doubt, be brought into use, but they should not be chosen indiscriminately for hydropathic establishments, or without having been subjected to severe scrutiny and examination, as regards their fitness for this purpose. It is only where buildings answer to every requisite, where there is a quantity of pure spring water in their immediate neighbourhood, that they may serve as hydropathic institutions, as Marienberg and Elgersberg, watering-places which not only abound in admirable water, but where nature has added every necessary advantage. A combination of so many favourable circumstances is, however, rare.

With the progress and extension of the cold water-system, we may conclude that many institutions will yet be founded; I therefore take this opportunity of calling the attention of the public to the qualities necessary for hydropathic establishments.

The first desideratum is, no doubt, pure and good water; it should be as free as possible from metallic, saline, and earthy constituents; clear, transparent, colourless, and tasteless, and of a temperature of 46° to 50° Fahrenheit. It is, moreover, essential that springs arising near the surface, and from which the water flows copiously and rapidly, are in the immediate vicinity of the house, in order that there may be a plentifnl supply of fresh water containing carbonic acid, which is another essential property.

It is a great convenience, especially for very infirm patients, that the water rise several feet above the ground. The spring should be surrounded by seats, and enclosed, to protect the patients against the influence of the rain and sun.

As regards the necessary practical arrangements, I perfectly coincide with the opinions of Dr. Piutti.

The bath-rooms must be spacious, cleanly, and situated as near as possible to the residences; they should be secured against draughts, in summer cool, in winter defended from frost. The floor of the bathing apartment should be dealed, so as to form an inclined plane, and is to be furnished with a drain for the escape of the water; a few hooks for the wearing-apparel should also be attached to the walls. Each room must contain several chairs, and its windows should be furnished with blinds.

The baths must be as spacious as possible, say six to nine feet in length, from four to six feet in breadth, (three feet at least,) and four feet and a half in depth. It is certainly desirable that the size of the bath correspond with the quantity of water flowing into it. The supply of fresh spring-water must be uninterrupted, and the baths should be emptied out and cleaned once or twice daily. Every bath-room should contain several bathing vats of various dimensions, for full-baths, for half-baths, and for tepid-baths; and several small vessels, for the purpose of affusion, should stand in readiness in each room. It is, moreover, advisable that apparatus be attached to several of the baths, by which helpless patients may be let down into the water.

The douche, or Sturz-bath, must, for the convenience of those patients who are capable of walking—the majority in hydropathic establishments—be situated at a distance of one quarter or half an hour's walk from the house. Every watering-place should contain several douches; the stream of these baths should fall from different heights, from fourteen to twenty feet, and its calibre should vary from one to three inches. To every douche-bath, moreover, a spacious cleanly dressing-room must be attached, which should be well secured against draughts. The water must descend in a continued and concentrated stream,—should not be scattered and interrupted in its descent. The floor of the douche-room is to be dealed, and partially covered with matting (of bass;) it should be frequently cleaned, and the walls should be furnished with poles, which the patients may grasp to support themselves whilst exposed to the stream of water.

The apparatus for sitting-baths, knee-baths, and foot-baths, should be of different dimensions, to correspond with the bulk of limb of the various patients; for the action of most of the baths taken in these vessels depends upon the circumstance, that a small quantity of water surround the parts in the bath. The vessels for sitting-baths should be twenty to twenty-five

inches in width, and eight to ten inches in depth; they are to be furnished with feet of one to three inches in height, and with a back of four to six inches in altitude. Foot-baths should be fifteen to sixteen inches in length, eight to ten inches in width, and six inches in depth. The vessels for leg-baths should be sixteen inches in length, and twelve inches in breadth, and from eighteen to twenty-eight inches in depth; they must, however, diminish in circumference towards the base.

Shower-baths require several pipes, and spouts with holes of various sizes; these baths should be as near as possible to the sick-rooms, that patients in a state of diaphoresis, who cannot take full-baths, may reach them without checking perspiration. They must be cleanly and spacious, to admit of freedom of motion, that the patients may be able to rub themselves freely, to bend the body, or assume a sitting posture. It is, moreover, advisable, that a moveable (an artificial) douche be attached to the shower-bath, for the convenience of patients who cannot use the full-bath, in consequence of congestion or affections of the chest, who nevertheless require active treatment to be directed to several parts of the body, as frequently occurs in cases of stiff joints, and of indurated, cervical, or axillary glands. This adjunct to the bath is the more necessary, as the patient should expose the whole body to the shower, before making use of the moveable douche—a proceeding very necessary to guard against taking cold in inclement cold weather.

A river in the neighbourhood of an establishment greatly adds to its merits, for it affords the opportunity of using wave-baths, and fluvial sitting-baths. We have already treated of the construction of these baths, and shown that they afford advantages in certain diseases, which are to be obtained by no other application; it will therefore be unnecessary to enlarge on this subject.

The patients' apartments must be dry, spacious, and airy, and should be heated in winter with hot air. Stoves and grates are injurious and objectionable, inasmuch as patients will sit by the side of the fire roasting the one half of the body, whilst the other remains cold, a practice which causes stoppages in the circulation. Remonstrances and reproaches may induce the patients to leave their favourite seat by the fireside with murmuring and regret for a few minutes, but they will return again to the fire as soon as our back is turned. In the erection of hydropathic establishments, we should, if possible, build all the sitting-rooms with an aspect which exposes them to the solar rays during a few hours of the day; for light and heat, as it is well known, exert a very beneficial influence upon the body. The staircases should be broad and light, furnished with a baluster on either side, to facilitate the ascent and descent of the patients, and the steps should not be too high. Where water-

closets are in the interior of the house, they should be constructed after the newest model, that they may not diffuse an unpleasant odour, or deteriorate the air. We must prevent vapours or smoke from rising from the kitchen, and it is always better that these domestic offices be detached from the house.

The selection of the site of a hydropathic establishment is by no means unimportant in a hygienic point of view. Mountainous districts are preferable to plains, but steep or bleak hills are to be avoided. The climate should be mild. We should, on no account, build the house in a low, damp situation, or in a valley excluded from light and air. Hills of moderate height, with a southern aspect, and protected from bleak north-easterly winds, deserve the preference; or they should be covered with firs or other trees. Extensive, luxurious valleys, however, may be selected in some instances. The vicinity of towns should be avoided, inasmuch as the patients too frequently return to their homes, and thus interrupt the treatment; but it is more especially objectionable, because the patients then meet with temptations and opportunities of indulging.

The direction of hydropathic establishments must be intrusted only to medical men, who are thoroughly acquainted with this system of treatment, and are possessed of the necessary capacity. The whole body of attendants should not only be subjected to the hydropathic practitioner, but the total management of the institution must also be under his control, and he must exert authority over all the patients in every point that refers to health.

The duty of a director of an institution, as regards the management of the establishment is as follows:—

Inspection of the patients' apartments with a view to internal arrangements, cleanliness, situation, distance from the bathing-rooms, fitness of the apartments for residence in general, and for single patients in particular. In the assignment of sleeping apartments to individual patients he must attend to the nature of the disease, and to the sex of the patient. The male wards and baths must be separated from the apartments and bathing places of the females; there should also be separate chambers, &c., for those affected with contagious disease. Where it is necessary for patients to take a cold bath after sweating, their rooms should be furnished with a bath, or they must inhabit apartments situated near the bathing-rooms. Every other object required in the treatment of the patient, demands the same attention. The construction of both the bathing-room and the bathing apparatus, and of all other utensils used in the treatment, must be cautiously attended to. They should be inspected carefully, and subjected to strict scrutiny as regards cleanliness, that they may not become the causes of the propagation of disease. The engagement of servants, the command and dismissal

of the bathing attendants, is the business of the director. Above all considerations, an apt and experienced bathing master is necessary: he should possess the necessary knowledge and manual dexterity to lend surgical assistance in cases requiring his aid; and should understand the application of the means prescribed by the physician. It is an advantage of the bath inspector be a surgeon. This functionary must be well acquainted with the general principles of the water-cure, in order to be able to direct the bathing attendants in their operations and manipulations, to control them, and inspect them whilst performing their duties.

In chronic diseases the hydro-therapeutist must give his directions in writing, and instruct both the patients and their bathing attendants thoroughly, to prevent misunderstandings. The prescription should be laid in the patient's room for inspection, and the orders must be obeyed to the letter; unless, indeed, alterations occur in the course of the disease, rendering a deviation necessary.

The qualifications of the bath attendants are by no means as trivial as we might imagine: these servants must be steady, willing, apt, cleanly, obedient, confidential, patient, robust, and intelligent; the latter quality is the more necessary, in order that they may understand their duties quickly, and be ready to afford assistance in cases of emergency. From these considerations we may conclude that not every individual is adapted for this service, and that the medical director alone is capable of judging of their fitness.

The director must enjoin the strictest punctuality and obedience to his orders on the whole body of servants, and must punish every neglect summarily. Where this proceeding is without effect, he should immediately discharge the offender. The bath attendants should be in readiness for service by day and night. If a bell from any sick-room be rung, and the attendant whom the summons concerns be not present, one of the other servants must immediately repair to the apartment indicated, and execute the orders he receives, or send the proper attendant. One servant at least should be continually in the waiting-room, both by day and by night. The number of patients each servant should attend to must not be left to his option; but the physician must exert his discretion in this respect, and determine whether one attendant shall serve one person, or whether he may undertake the charge of several patients. The director must listen to all complaints on the part of the patients and of the attendants; he should inquire into their grievances, and endeavour to accommodate them to the best of his ability.

The patients must follow the prescriptions of the medical man with implicit obedience and with sincere confidence. They

must not reason whether this prescription be best suited to their state of health, or whether another might not be more advantageous; but they should subject themselves without fear or misgivings, to the treatment ordered, let it appear ever so hazardous, and should conscientiously relate their feelings and symptoms to the medical man without reserve or exaggeration. The patients should not trouble the physician with incessant entreaties to be more active in his treatment, to allow them to use the douche, or to perspire more frequently, as is often the case. It is yet a worse error, and by no means a rare occurrence, that the patients proceed to various applications on their own responsibility, and by these means deceive the physician, and injure themselves, as they learn by experience, when it is too late. The patient should commence the treatment the medical man decides upon with confidence, and co-operate with him with patience and perseverance in the execution of all the medical orders. He must not feel offended or hurt by the discipline insisted upon by the director, who is of course obliged to attend strictly to morality, and to resent every licentious action and every neglect.

Dr. Mundt very aptly remarks: "Hydropathic establishments should be places in which a patient may restore impaired health, and gain strength only. Every thing beyond this is of evil, let it appear ever so desirable to the individual patient. Those who will not comply with this view, should spare hydropathic institutions the trouble of their visits, and adhere to mercury and purgatives, for which they are better fitted. I know very well that discipline is attended with difficulty; but with a firm determination it may always be carried out; and if an Utopia of morality cannot be obtained, the directors must at least do all in their power to prevent scandal, which to the disgrace of hydropathy, has occasionally occurred."

To practise the water-cure with success, it is not only necessary to employ all the hydropathic remedies with judgment, but it is more especially essential to pay attention to the diet; for unless the latter be properly insisted upon, we shall not afford relief, much less effect a cure. It is no easy matter to decide upon a dietary suited to the patient; and it is a still greater difficulty to superintend his diet at home, and at the refectory; but the greater the difficulty, the more it deserves our attention —the more necessary it becomes to point out its importance to the patient, and to insist upon his compliance.

The diet should in a general sense, be simple and mild; even nutritious in some cases; it should, in fact, be in accordance with the state of the patient. It is not necessary to repeat, that patients must be restricted from many articles of food which may be allowed to persons in health. Amongst these substances may be reckoned pork, salted and smoked meat, high

game, sausages, fat fish, herrings, old cheese, and butter. Patients should especially avoid coffee, tea, spices, and spirituous liquors, which are alone capable of producing disease, and must necessarily operate injuriously on an impaired organism, or impede the beneficial action of the water.

The more simple and scanty the diet, and the more regular the patient's habits, the sooner he will recover; but patients have to contend with great difficulties, even where their intentions are the best, in weaning themselves from their usual habits and customary food, and in diminishing the quantity of the ingesta more especially.

To superintend the dietary is a very unpleasant but a very necessary task: the medical man must, however, submit to his duty; for in this respect he will more particularly show whether he be fitted to direct a hydropathic establishment.

The sick-list, together with notes referring to the institution, and the annual report, must be drawn up by the director himself, or should at least be written as circumstantially as possible, and with due regard to truth, under his immediate superintendence. A strict fulfilment of this duty is the more necessary, considering the responsibility of the office of the physician.

The responsibility and duties of the medical director of a hydropathic establishment towards the patients and his other subordinates, are by no means trivial or unimportant: they demand a scientific education, practical experience, and perception; they occupy all his time and exertions, and render imperturbable patience and firmness necessary. It is inconceivable how some people can have the audacity to create themselves directors of hydropathic establishments, and authors on hydropathy, who can bring forward no further evidence of their experience in this method of treatment, than that they have spent two or three days at Gräfenberg, seen Priessnitz, taken the measure of the bathing-vats, contemplated the fall of the douche, and listened to a marvellous tale, hundreds of which are there concocted, related by some enthusiastic patient; or they may perhaps have caught a glimpse of a patient in the envelopment, through the instrumentality of a bathing attendant. With these wonderful acquisitions, the *soi-disant* hydropathist returns home, arranges his observations upon the "cold-water system," and his experience in this "new mode of treatment," in the form of a learned treatise on the water-cure, or writes a work on the whole system of hydropathy. A man who can do all this, must surely be able to direct a hydropathic establishment, even if he have not the slightest confidence in the operation of water. Hydropathists of this class, in fact, do not employ water in their treatment, before the patients can no longer be induced to take medicine; or it is more frequently the case, that, when they actually resort to water, and the patients are not quite content with

the result, they return with delight to mercury, castor-oil, and to their very innocent, mild, purgative pills. At the same time they allow the patients to drink a little cold water, and even to wash themselves with it, that they may appear to be using the water-cure. The poor patients are of course the sufferers, and disturbances are created in all the organs of the body, and its functions are necessarily deranged.

With these considerations, the question suggests itself: "What does hydropathy gain by these representatives?" "What opinions must patients form of this mode of treatment, when the director himself scarcely washes with cold water, and drinks little or none; when he neither observes a natural diet, nor leads a judicious mode of life; and when he is, moreover, deficient in confidence, activity, and stability of character?" These are the natural consequences of "a little knowledge," which is always a dangerous thing. If these half-instructed hydropathists had convinced themselves, whilst at Gräfenberg or Freywaldau, or would allow themselves to be informed, that acute and chronic disease is treated at both establishments with water only; that Priessnitz has never employed medicine in his life; that I have directed an institution at Freywaldau, the best-frequented in Germany after Gräfenberg; and am now superintending the first and most considerable establishment of this description in England, without the use of medicines, as hundreds of patients can testify, they would perhaps alter their opinions, and act accordingly; they would probably gain confidence in the action of water, and restrict themselves in their practice to the use of this simple but very active remedy.

With the medical man in private practice circumstances are very different. Let him be ever so convinced of the beneficial operation of cold water, and acquainted with the various modes of employing this remedy in cases of disease, he cannot always bring his knowledge and conviction into application. In many families he dare not even propose cold water as an exclusive remedy, much less use it as such; it is, however, very desirable that water should be more generally introduced into private practice, and it behooves medical practitioners to prepare the public gradually for its introduction.

The position of the hydropathist in his establishment is quite another affair. The patients resort to the institution to re-establish their health, and are partially or totally prepossessed in favour of water. The director, therefore, has only to encourage their confidence, and convince them of the efficacy of this remedy; and the institution affords him hundreds of opportunities of so doing. The physician must be very cautious in making promises of rapid cures; for nothing discourages patients more than disappointment. It is, moreover, prudent not to receive patients into the institution whose cases appear incurable,

or where exacerbations may be expected; and, further, in all cases of difficulty it is advisable not to give the patients more hope than the diagnosis warrants.

To maintain harmony amongst the patients, the director should be always present, and devote most of his time to their society; for he can best instruct them in the changes of symptoms they may expect—he can best exhort them to patience and perseverance. This encouragement is especially necessary in cases of exacerbations, and of a painful crisis; for the patients then lose their courage, and will not co-operate with the medical man in carrying out the treatment. Every thing depends, in this case, on instructing the dejected, and in directing their attention to the object in view,—a radical cure; every thing depends on rendering them inclined to perseverance, exertion, and to the privations necessary in hydriatic treatment. It is, moreover, the duty of the director, to provide for the exercise and amusement of the patients, in constructing commodious paths, walks, and places of exercise. The patients may be allowed, as at Gräfenberg and Freywaldau, to assist in laying out the grounds and park attached to the institution; to select spots, as the walks and terraces are enlarged, where they may construct seats, grottos, &c., for themselves. Patients, who are good pedestrians, may occasionally undertake tours into romantic districts—ramble over hill and dale, to inhale the pure, invigorating mountain air.

The amusements and recreations which may be permitted to patients are: Concerts; music in general; short dances; various games; gymnastic exercise in the open air, by which the various muscles of the body are brought into play; and, in addition to these entertainments, cheerful, amusing, light reading. Hydropathic establishments should therefore be furnished with a skittle-ground, a billiard-table, and other contrivances and apparatus for gymnastic exercise; nor should amusing periodicals and books be wanting in the institution.